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ABSTRACT

The World Health Organization (WHO) conducted a study to collect data on mental health resources of pilot areas within several European countries. This report presents data from the study and provides a detailed and reliable description of the development of mental health services within the WHO European Region. Part I of the report describes the study and the use of data in seven chapters: (1) "From Phases I and II to Phase III" (R. Giel and J.U. Hannibal); (2) "Mental health information systems" (A. Dupont); (3) "Use of social and demographic data in the planning and evaluation of mental health services" (G. Moschel); (4) "Mental health services models in Europe" (D. Walsh); (5) "Patterns of care and service utilization" (R. Giel, et al.); (6) "The relationship between social conditions, service models and patterns of care" (N. J. Lavik); and (7) "The pilot areas study and the context of mental health care" (H.L. Freeman and T. Fryers). Part II contains an introduction by J.U. Hannibal and G.H.M.M. ten Horn and area descriptions from Austria (Mistelbach); Belgium (Brussels, Leuven); Denmark (Randers); Finland (Tampere); France (Paris 7, Paris 13); West Germany (Mannheim); Greece (Athens); Ireland (Dublin); Italy (Trieste); Netherlands (Groningen); Norway (Oslo); Romania (Iasi); Spain (El Ferrol, Leganes); Switzerland (Geneva); United Kingdom (Aberdeen, Nottingham); and Yugoslavia (Belgrade, Zagreb). An annex contains instructions and data sheets for the cohort study. Tables and figures are included. (NB)

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World Health Organization
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Copenhagen

Mental health services in pilot study areas

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The World Health Organization is a specialized agency of the United Nations with primary responsibility for international health matters and public health. Through this Organization, which was created in 1948, the health professions of some 160 countries exchange their knowledge and experience with the aim of making possible the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.

The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health problems of the countries it serves. The European Region has 32 active Member States,[a] and is unique in that a large proportion of them are industrialized countries with highly advanced medical services. The European programme therefore differs from those of other regions in concentrating on the problems associated with industrial society. In its strategy for attaining the goal of "health for all by the year 2000" the Regional Office is arranging its activities in three main areas: promotion of lifestyles conducive to health; reduction of preventable conditions; and provision of care that is adequate, accessible and acceptable to all.

The Region is also characterized by the large number of languages spoken by its peoples, and the resulting difficulties in disseminating information to all who may need it. The Regional Office publishes in four languages — English, French, German and Russian — and applications for rights of translation into other languages are most welcome.

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[a] Albania, Austria, Belgium, Bulgaria, Czechoslovakia, Denmark, Finland, France, German Democratic Republic, Federal Republic of Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Romania, San Marino, Spain, Sweden, Switzerland, Turkey, USSR, United Kingdom and Yugoslavia.

Mental health services in pilot study areas

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World Health Organization
Regional Office for Europe
Copenhagen

Mental health services in pilot study areas

Report on a European study

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Foreword

In the early stages of the long-term programme in mental health, approved by the WHO Regional Committee for Europe in September 1970, a large-scale information gathering exercise was embarked on by the Regional Office and the European Member States. Information was obtained by a questionnaire, covering the general administration of mental health services, the types of facility provided, and data relating to the patients using them and the types of personnel involved. A review of the data collected was published in 1976 as WHO Offset Publications No. 23, under the authorship of the late Dr A.R. May.

Subsequently, new proposals for the long-term programme in mental health, approved by the Regional Committee in 1973, included a project for the development of national pilot areas to study methods of data collection, analysis and evaluation of mental health services. The problems surrounding the collection, analysis and use of data in describing and evaluating mental health services had already been described fully and adequately by May. These limitations and problems from the early experience of data collection in mental health led to a longer-term project for investigating and reporting on the operation of mental health services in communities, in preference to those at the national level. Although one aim of the project was to establish some norms and indicators for greater comparability of data, a more important objective was to attempt to define adequate and acceptable services, and to describe and evaluate the patterns of operational practice in the areas.

The Regional Office has found invaluable the commitment to this study over time of an increasing number of community pilot areas. From a preliminary group of 9, the project at its conclusion engaged 21 areas in 16 Member States.

At the beginning the study depended rather heavily on technical assistance provided by WHO but gradually, reflecting the new relationship between the Member States and the Organization, participation by the areas in the study was maintained by their own mobilization of resources or by support from their parent institutions and governments. Technical cooperation became the characteristic of the study, with WHO's role becoming substantially one of coordination and of fostering cooperation among the areas themselves.

The willingness of the areas and the Member States to participate in the study is generously acknowledged. The readiness of all to use the information, *knowledge and experience gained, however much they may contradict existing beliefs and dogmas, will provide mutual enhancement and support to the goals and standards we set ourselves in cooperative activities in international health work. It is to be hoped that the work reported here will support Member States collectively and individually in the development and implementation of national, regional and global mental health policies in line with the general strategies, plans of action and programmes for attaining health for all.*

The report of the study published in this volume conveys to us the important differences and similarities of patterns of mental health services throughout Europe.

The additional benefits that have accrued mutually to the Organization and to Member States from the very wide participation in this study must also be acknowledged. The areas involved, the collaborators and their clinical and administrative colleagues have all responded readily to additional requests and challenges in support of the development of the WHO medium-term mental health programme. They have provided the Organization with a referral network of professional authority and wisdom. This we hope to continue to use in the promotion of further collaborative research and development of new approaches to psychosocial problems, and the protection and production of mental health.

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Chapter 2	Mental health information systems	A. Dupont
Chapter 3	Use of social and demographic data in the planning and evaluation of mental health services	G. Moschel
Chapter 4	Mental health services models in Europe	D. Walsh
Chapter 5	Patterns of care and service utilization	R. Giel G.H.M.M. ten Horn P. Hermann L. Tricot
Chapter 6	The relationship between social conditions, service models and patterns of care	N.J. Lavik
Chapter 7	The pilot areas study and the context of mental health care	H.L. Freeman T. Fryers

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Introduction

This long-term project was initiated by a Working Group convened by the WHO Regional Office for Europe in Copenhagen in 1973 (*Mental health services in pilot study areas: report on a working group*, Copenhagen, World Health Organization, Regional Office for Europe, 1973 (unpublished document EURO 5428 I)).

It was the logical development of earlier studies organized by the Regional Office on the classification of mental health service activities and of the general review of mental health services in Europe carried out by the late Dr A. R. May and reported in a WHO publication (*Mental health services in Europe: a review of data collected in response to a WHO questionnaire*, Geneva, World Health Organization, 1976 (WHO Offset Publications No. 23)).

These earlier studies, in which Member States cooperated at national level by means of questionnaires completed by the relevant government departments, provided a useful general picture of the mental health services and their work in the countries. However, the national data provided did not reflect adequately the changes taking place in psychiatric practice, particularly in regard to local innovations. It was clear, therefore, that more detailed data were needed if useful information was to be obtained and that such data could be collected effectively only by more intensive studies of smaller areas within countries. A study was thus designed with pilot areas in a number of countries, each area covering a limited population which would be surveyed in depth by means of common methodologies and techniques. It was hoped that this survey would provide a more precise inventory of the mental health resources of the areas concerned, as well as data that would enable conclusions to be reached on the problems that they shared and on the most effective ways of tackling them.

The participating areas varied in size, as well as in demographic, ecological and socioeconomic characteristics. Their population size differed more widely than had originally been envisaged, but it was nevertheless considered that the areas would reflect in some degree the modern trend towards the development of semi-autonomous community mental health services, that they would be reasonably comparable in several respects, and that they would permit account to be taken of local institutions, problems and special developments.

From the beginning of the study in 1973, the number of areas participating had increased from six to 11 when the first two phases of the study were completed by 1977.

The study was concerned chiefly with the organization and evaluation of mental health services which, while differing in some respects from one another, all had the same goal of reducing functional disability caused by recognized mental disorder. The method used was, broadly, to establish a mental health information system in each area which could collect data and forward them to a central organization for coordination and analysis.

This early work was carried out in two phases. Phase I covered: (i) the organization of information systems in the pilot areas; (ii) the collection of demographic, ecological and socioeconomic information; (iii) the completion of an inventory of available mental health services, including details of staff and of the use made of the services by different categories of patient; and (iv) a prevalence count of patients in treatment within each area on a given date. In Phase II, a cohort of inpatients and outpatients was followed up for one year in each area, and work was begun on evaluating the services by means of team activity studies and cost analysis. Representatives of the areas met annually, and members of the participating teams and of the coordinating groups reviewed progress, discussed difficulties and on occasion modified the methods and techniques to be employed.

Phase I, which also included the preliminary task of selecting areas and finding suitable teams, was completed by September 1974. Work on the cohort study of Phase II began in January 1975 and, at a conference in Lysebu, Norway in 1977, the results of Phases I and II were presented and discussed. Subsequently, a report on Phases I and II was prepared for distribution to Member States, those directly involved in the study, and a limited number of researchers and others involved in similar activities.

At this conference in Lysebu in 1977, it was agreed that the original objectives of the study still remained valid. These were as follows:

1. An *immediate objective* of the project was to establish reliable systems for collecting data which would describe the organization and operation of mental health services in the pilot areas.

2. An *intermediate objective* was to improve the validity and accuracy of the information used for evaluating and planning mental health services.

3. Since the resources in the pilot areas varied considerably, as did the use made of them, a *long-term objective* was to determine the effectiveness of different patterns of service in achieving their goals, in respect of different patient groups or disease categories.

All of the 11 areas agreed to participate in Phase III of the study and, in addition, another ten areas agreed to enter the study. Phase III thus represents the outcome of work in 21 areas in 16 Member States in Europe.

A special feature of the project continued to be the annual meetings of the collaborators from the participating areas for the purpose of setting goals for the following year, studying and amending the draft instruments, discussing findings and assessing progress.

In Madrid, at the sixth meeting in 1978, Phase III was started with an agreement that each of the participating areas (new and old) should produce, in order to develop a detailed description of the area, its services and their workload:

1. An area description.
2. An inventory of services.
3. A patient census.
4. A cohort study.

At the seventh meeting in Tampere, Finland in 1980, the draft data sheets were discussed and it was decided to amend them in the light of these discussions; the data sheets and instructions for the cohort study were found, in particular, to need amendment. It was further decided that, before the eighth meeting, and based on the revised data sheets, the areas would finalize their area descriptions, covering social and demographic data, services inventory and patient census, as well as information on their selected cohort.

The final discussion by the pilot areas of the findings of the study and their presentation took place at the ninth meeting in Paris in 1982. It was decided to divide the report on the study into two parts, of which Part I would be analytical in character, including findings on: (*a*) information systems; (*b*) use of social and demographic data; (*c*) mental health services models; (*d*) patterns of care and use of services; and (*e*) interrelationships between social conditions, service models and "patterns of care". Part II would contain the detailed area descriptions, including the information mentioned in the previous paragraph. It was agreed that each area should be encouraged to use the collected material for additional analyses and publications, locally, nationally and internationally.

The publication of this study makes available for the first time a detailed and reliable description of the development of mental health services within the WHO European Region.

Part I

The study and the use of data

1

From Phases I and II to Phase III

R. Giel and J. U. Hannibal

Compared with the developing world, where today the emphasis is on integrating mental health care into primary health care instead of extending the meagre specialized mental health services, the developed countries in Europe have a long tradition of mental health care delivered mainly through a variety of specialized institutions.

Against that background it was surprising to discover, during a survey of mental health service activities in the Region conducted by the WHO Regional Office for Europe in the early 1970s, that reliable information was not at all readily obtainable. Even at government level, information was often sketchy. In addition, any attempt to make comparisons between countries appeared to be quite impossible because of imprecise terminology and statistics. For example, it was difficult to agree on the exact numbers of beds available for psychiatric patients in various countries because participants in the review of services defined such facilities differently (*1*).

As a result, a working group convened by the WHO Regional Office for Europe in Copenhagen in 1973 initiated a long-term project to improve data collection. Initially, 11 pilot study areas were chosen in ten countries, each covering a limited population which would be surveyed in depth, using a common methodology and techniques of data collection. This survey, it was hoped, would provide a more precise inventory of resources in each area, as well as comparable data that would enable conclusions to be reached on shared problems and on the most effective ways of tackling them. The areas selected varied widely in size, as well as in demographic, ecological and socioeconomic characteristics, and were located in the following countries: Finland, the Federal Republic of Germany, Italy, the Netherlands, Norway, Romania, Spain, Switzerland, the United Kingdom (England and Scotland) and Yugoslavia.

The work was carried out in two stages. Phase I, which was completed in September 1974, included: (i) the organization of an information system in each area; (ii) the collection of demographic, ecological and socioeconomic information; (iii) the completion of an inventory of available mental health services, including details of staff and of the use made of the services by different categories of patients; and (iv) a prevalence count of patients in treatment within each area on a given date. Table 1 gives some data on the census of patients in treatment and indicates the magnitude of the variation from country to country (*2*).

All over Europe, long-stay patients occupy the majority of mental hospital beds. One of the challenges of mental health care is to prevent this type of chronicity in mentally ill patients. However, it is usually difficult to pinpoint any single factor that is responsible for patients becoming long-stay hospital residents. The review of mental health service activities in Europe, made in the early 1970s, had already shown the differences between the various countries in the numbers of long-stay mental hospital residents. Apparently, certain sociodemographic characteristics either prevent or promote this type of chronicity. In addition, the characteristics of the services themselves influence the duration of stay in hospital.

The data collected during Phase I of the study permitted us to analyse the association between the various characteristics mentioned earlier according to the simplified model of relationships given in Fig. 1.

The results of the analysis showed that greater numbers of mental health staff, in the first instance, merely reflect the overall growth of services in a country. In other words, greater numbers of staff indicate greater numbers of mental hospital beds, and therefore greater numbers of inpatients, but have no real bearing on the fate of patients occupying these beds.

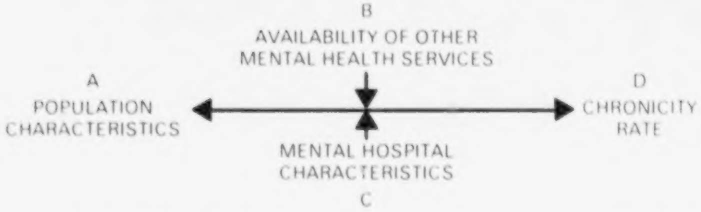
The same can be said of alternative services, such as outpatient or day care services, which in most areas were so limited that their influence on the course of events within inpatient services was marginal or even non-existent.

Table 1. Census of patients in various services (Phase I)

Pilot study area in:	Inpatients per 1000 population	Day patients per 1000 population	Outpatients per 1000 population*
Finland	6.73	1.03	3.59
Germany, Federal Republic of	1.91	0.12	0.21
Italy	3.20	0.17	Not known
Netherlands	4.59	3.38	0.41
Norway	2.90	0.44	1.23
Romania	2.37	0.07	1.33
Spain	0.60	None	0.21
Switzerland	1.97	1.84	3.82
United Kingdom (England)	1.49	1.25	0.81
United Kingdom (Scotland)	3.71	0.72	1.08
Yugoslavia	0.66	None	0.70

* Number of outpatients attending once or more during census week.

Fig. 1 Simplified model of relationships


B
AVAILABILITY OF OTHER MENTAL HEALTH SERVICES
A
POPULATION CHARACTERISTICS
D
CHRONICITY RATE
MENTAL HOSPITAL CHARACTERISTICS
C

A = Population density per square kilometre, percentage of young and percentage of elderly people in the population

B = Day patients and outpatients per 1000 population, day patients and outpatients per 100 inpatients

C = Various types of staff per 1000 population and per 100 inpatients

D = Number of patients at least one year in hospital per 1000 population and per 100 inpatients

Phase II of the project, which began in January 1975 and was concluded towards the end of 1977, involved following up a cohort of inpatients and outpatients for one year in each area; at the same time, work began on evaluating the services. For example, the activities of multidisciplinary teams in charge of psychiatric wards came under study, and a cost analysis of inpatient and outpatient care (*3*) was attempted. Phase II was particularly important, because it confronted the research teams with the difficult task of maintaining an information system and taxed their creativity in developing a methodology for these new lines of study.

Wide differences again became apparent in the follow-up of cases in the various pilot study areas, and these could not altogether be explained by differences in the distribution of diagnoses in the cohorts. Closer examination of the diagnostic categories (schizophrenia, for instance) suggested patterns of care that were typical for the services in each area rather than for the particular disorder. This raises the interesting question of patterns of care emerging as a result of a combination of factors, including not only the needs of patients but also the established habits of the services.

A function of such a comparison is that the differences force the investigators to question their significance and reflect on possible explanations, which in turn have to be tested by further scrutiny of services.

An important feature of the project was the regular, approximately annual meetings of the pilot study area directors and/or their representatives and collaborators, where the usefulness and further development of the instruments were discussed.

The discussions concentrated initially on the development of common definitions and terminology regarding the units of information which had to be collected. Further discussions focused on questions relating to the validity of comparing data from different countries or regions within countries which, because of their widely divergent socioeconomic characteristics, attached very different meanings to types of facility or to staff so that even data correctly counted could be misleading. Also, more practical questions of no less importance were discussed, including, among others, those of:

—finding a team of people who could take responsibility for collecting information and who would maintain their interest over the period of years required to complete the study;
—establishing contact with the relevant services within the area and gaining their cooperation in providing whatever information was required;
—organizing a system for analysing the information collected and for feeding back the results of the study.

As progress was made with the data analysis, it became evident that not only were the data sheets used, and especially those on demographic and social data, too detailed in their original design, to the extent that much of the information requested could not be collected, but also that the information, where available, was of limited value in assessing the accessibility or availability of services to the population in relation to the needs presented.

Since the information was intended to serve as a background to mental health services or as the context in which they operated, it was decided during these meetings that, before the study was expanded, a revision of the instruments was necessary. It was further decided that, although much of the information could be presented in tabular form, it would often be more suitable to discuss the related items in narrative form, since this would better enable others to understand the situation in which the services were working and the structures under which they were developed.

The interest aroused by the initial results of Phases I and II, which were presented at a conference in Lysebu, Norway, in 1977, led to an expansion of the study to cover 21 pilot study areas. It was decided that the first 11 areas would repeat the observations using the revised instruments, and the ten additional areas would benefit from the experiences gained. Thus, Phase III was set in motion. This time the survey was to have a somewhat different focus. Census-type studies, such as Phase I, yield information which reflects largely past mental health policy because the census includes a majority of patients who began their career in the mental health services many years before.

On the other hand, longitudinal studies of cohorts of new patients or of patients with a new episode of illness, such as those attempted in Phase III, provide insight into the present practice of mental health care. It was therefore decided that, in Phase III, the main thrust should involve a longitudinal study of two years duration of a cohort of new cases, or cases with a new episode of illness, and a much more careful and detailed analysis of the patterns of care in each pilot study area.

The demographic survey and the census of services and patients was to receive less statistical emphasis but increased content analysis.

A set of the revised data sheets used for Phase III is attached as Annex 1.

The regular meetings continued throughout Phase III and took place most often in one of the pilot study areas. Once more they proved to be an important forum for the exchange of information about psychiatric care under greatly varying sociocultural and economic conditions, largely inexpressible in statistical terms. It is, for instance, probable that only in the well-provided areas can alternative types of care, or more of the same or different types of staff, begin to affect the fate of various types of patient, e.g. long-stay patients. Exceptions to this apparent rule are changes of a revolutionary nature, such as those that have occurred in Italian psychiatry, which again are difficult to measure because they involve mainly attitudinal changes. The analysis of patterns of care, which was a major issue in Phase III, comes closest to revealing such differences.

In spite of all the differences, however, some universal principles of psychiatric care have emerged. An uneven distribution of services, with the main concentration in the major towns, results in inequality of care to the disadvantage of those living in the rural areas, whatever the state of development of a country. If there are too few psychiatrists available for outpatient care, the chances are that certain categories of patients who do not need to enter hospital will receive no psychiatric care at all.

Finally, the project has shown the need to establish and maintain a reliable information system despite the all too common obstacles and constraints that stand in the way of doing so.

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2

Mental health information systems

A. Dupont

When the members of the WHO Working Group met in Copenhagen in 1973 with the aim of developing a pilot study in certain areas of a number of European countries, the discussion was initially focused on the establishment of reliable information and data collection systems. Although many European countries regularly publish health information, it is well known that information systems vary greatly from one country to another and that data are difficult to compare and often of doubtful validity (*1*). The Working Group's immediate objective was therefore to establish reliable systems for collecting data that would describe the organization, operation and use of mental health services in the pilot study areas. An intermediate objective was to improve the reliability and accuracy of information used in evaluating and planning mental health services. Finally, a long-term objective was to determine the effectiveness of different patterns of service in achieving the goals established for different patient groups or disease categories (*2*).

It was immediately obvious that there were discrepancies between the different pilot study areas in terms of the manpower and research facilities available for the study.

Development of mental health information systems

The characteristics of mental health information systems of a country or region are closely related to the mental health services, and these are, at any given time, affected by a large number of factors. Among the most important of these are the geographical, demographic, social, economic, cultural and political characteristics of the area concerned, together with local traditions and history. These characteristics influence both the evolution of the systems and the ultimate pattern of services. However, it has been shown, e.g. by May (*3*), that in broad policy issues there is often a striking similarity between the measures adopted by different countries in dealing with the more serious forms of mental illness and with severe mental retardation. This is because all countries face similar problems in providing for the care and management of those members of their population who are overtly seriously mentally disordered or mentally handicapped. With regard to both similar policies and different practices, in order to understand the methods whereby statistics are produced and information systems operated, a knowledge of the organizational patterns of mental health services is required.

Information systems exist at different levels. A primary-level health information system is established when a hospital, an outpatient clinic, a social-psychiatric institution, etc., keeps records or files. Each treatment episode constitutes a unit in such a system, and management of the institution can be based on tabulated data on admissions, etc. At the next level, tabulated data for a given year may be compiled from the data on treatment episodes prepared by a large number of institutions. A region or a country may use tabulated data produced separately by many institutions for the purpose of compiling regional or national statistics, but tabulated data, even in standard form, originating from a large number of sources is open to serious error. More reliable national statistics are obtained if each event, e.g. each hospital admission, is reported directly to the national statistical centre.

Thus, the Department of Health and Social Security in London collects data on each patient admitted or discharged at about 500 state psychiatric hospitals. Each hospital completes a form for every patient, giving information on his identity (full name, date of birth) and his particulars (age, sex, marital status, profession, etc.), together with coded information on the source of referral and the diagnosis (based on the International Classification of Diseases). Part of the information collected is transferred to magnetic tapes to be used in the compilation of annual tables on admissions and discharges, broken down by age, sex, diagnosis and region. With this system, delay is inevitable between the sending of the information and the publication of the tables. The data are used only for planning purposes, mainly by the regional health authorities. A system in which data are compiled retrospectively is not adapted to the needs of research projects.

A large number of different authorities are concerned in the operation of services for the mentally ill. European countries differ in the degree to which regional or provincial authorities are independent of central government with regard to both health services and information systems. Coordination of the efforts of those involved is of prime importance. Most countries have delegated supervision of their mental health policy to an autonomous section of their national health or welfare authorities (in eastern Europe, national institutes of mental health are a special feature of the structure of services). Planning policy is often determined centrally, but for this purpose reliable statistics are necessary. Planning often also uses professional advice, and the participation of the public is often encouraged, usually at the local level, in planning services to meet the needs of all sections of the community, especially those of vulnerable groups (*4*) and the socially dependent or disadvantaged. In this process, statistics and tables showing the current state of the organization and use of services are essential.

Efficient organization depends on the collection and analysis of operational data, which should be uniform and sufficiently up to date to be useful. The authorities responsible for financing and planning services have generally been aware of the changing nature of public health problems, with the shift of emphasis from acute and communicable diseases to the increasing burden of chronic relapsing illness, especially mental illness, and mental retardation. The response has been either more and more highly centralized state direction and control of mental health services or, alternatively, autonomy under local authorities, as in Denmark, Greece, Italy, Portugal and Spain. However, even where responsibility is delegated to local authorities, the expansion of services or changes in their financing are subject to monitoring by central government.

The data published in 1976 (*3*) for 31 European countries provided information on beds per 100 000 population, the distribution of units for psychiatric patients in nonpsychiatric hospitals, outpatient facilities, administrative prevalence, numbers of patients on a given day, and other information, broken down by age group. It was concluded, however, that there was a need for standard criteria and definitions to be applied in all regions and also a need to transcend the limitations of even well developed national health information systems. It was obvious that certain apparently simple data could not be collected at the national level, there were gaps and deficiencies in basic data, and there was a need for greater contact between administrators and statisticians. The consequences of shortcomings in health information systems in European countries had been described earlier by Brooke (*1*).

Definitions

With the increase in the number of information systems, it has become necessary to define the terms used. Patients' records kept by a hospital do not constitute a register, but a local file or record system. Most countries now have registration systems for births and deaths, and sufficient information must be included in the register to enable each individual to be uniquely identified. In some countries, there are now national person registration systems, e.g. in Denmark each person at birth is given a ten-digit number from which he or she can always be identified (*5*). Disease registers have been developed in many countries, but "disease registration is a rather difficult concept, because a disease cannot be considered for registration purposes independently of the person who falls a victim to it" (*1*). The term "registration" implies something more than "notification", and in some cases such terms as "index system", "control programme" or "follow-up study programme" have been used. In mental health, the word "register" might have unpleasant connotations because some psychiatric patients are compulsorily detained in hospitals, and it is therefore felt that registration implies a kind of stigma.

A register requires that a permanent, linked record be established, cases be followed up, and basic statistical tabulations be prepared both on frequency and survival. In addition, patients included in a register may be the subjects of special studies. Based on the above-mentioned definitions, developing a register will involve case-finding, follow-up and statistical utilization of the data obtained.

A register can be described in terms of its purposes: Brooke (*1*) listed many different uses and showed their close relationship with the characteristics of the diseases concerned. Registers can take various forms, but basic processes must be similar. For example, an index card is completed when a patient is first entered in the register recording the patient's identity, together with information on sex, date of birth and civil status, as well as his address sometimes in coded form. It is then necessary to record certain dates, e.g. dates of first contact, admissions, discharges.

If the register is used to describe, plan or evaluate services, it is also essential to record, suitably coded, the services provided and, where appropriate, the patient's status or location, e.g. inpatient, day patient, night patient, in a special unit of a hospital. In this way, the system can be used to measure, for example, the efficiency of a hospital as judged by the discharge rate, chronicity ratio or admission/bed ratio (*6*).

Psychiatric case registers

Since the 1960s, interest has been increasing in psychiatric case registers, defined as patient-centred longitudinal records of contacts with a defined set of psychiatric services, originating from a defined population (*7*). Such registers may be classified in different ways, as follows.

(1) Registers which cover a particular population may be limited to a district or region (Aberdeen, Aarhus county, Baltimore, Camberwell, Cardiff, Groningen, Mannheim, Monroe county, Nottingham, Oxford, Salford, Sheffield, Southampton, Samsö, Worcester) or include an entire country or state (Denmark, Hawaii, Israel, Maryland, the Netherlands, Scotland).

(2) Registers include only certain specified disorders, as in the Norwegian register of psychoses (*8*) or the entire field of mental illness.

(3) Register techniques may rely on manual filing systems or use computers, either in an on-line system with video terminals and immediate recording on disk or magnetic tape, or in a batch processing system.

(4) Registers serving a relatively small population may include all psychiatric institutions, facilities and personnel, together with a number of social services, etc., and even some part of the general primary health care system. Decisions as to the services to be included will depend on the aims of the register. If, for instance, it is intended to determine the extent to which services complement or overlap one another, it will be useful to include as many different services and agencies as possible (*9, 10*).

Registers are necessarily longitudinal and cumulative, but in some cases are limited to a particular period of time or to a particular study. In many registers, the unit is an episode (a period spent in residence in a hospital, under treatment in an outpatient clinic, etc.) (*7*). However, it is possible to combine all the information in the system to compile "case histories" by linkage of data relating to individual patients by means of identifying data. Only with systems used exclusively for specific projects is it possible, after data collection, to destroy patient identification data and replace them by a number. It must be emphasized that, if it is required continually to add new data relating to registered patients and to follow individuals through a variety of service contacts, e.g. to check for readmissions, patient identification data must be retained as such in the register. Of course, these will be in coded form on computer records. In psychiatric inpatient services, about 70% of admissions are readmissions, and it is therefore necessary, in even the simplest longitudinal studies of psychiatric illness, to retain patient identification data. When new patterns of service are developed, it is particularly important to be able to identify new episodes of care relating to previously known patients in order to monitor the effectiveness of new types of care.

The functions of psychiatric case registers were listed by Wing et al. (*11*, *12*) as the following: (1) assisting communication or acting as a data bank; (2) storing and processing information; and (3) producing output of tables, lists, etc. It is also possible to extract samples for special studies. A register also makes it possible to obtain the basic information needed for rational planning and for evaluating the effects of changes. It is also possible (*13*) to carry out studies of the psychiatric treatment of a defined group by extracting a sample from the case register and following the patients through a range of services not included in the register. After identification, they are followed up by means of repeated census studies or continuously as a cohort.

The current state of mental health care services in many developed countries is one of great complexity and, in some respects, confusion. It is possible for a patient to "jump" from one service to another, with no continuity of contact with one agency providing care. Different services are often unaware that they are providing similar or complementary types of care to the same patient. In some countries, this situation is avoided by means of specified catchment areas for each institution combined with a network of community psychiatry services, the entire system being served and controlled by the same team of professionals. However, in many European countries, health and social services are not always in harmony; doctors, psychologists and social workers often base their work on conflicting theories, and the views of users (particularly the disabled and their immediate relatives) are rarely taken sufficiently into account (*14*).

The principal advantage of a psychiatric case register is the ability to obtain information or samples for more sophisticated epidemiological research and planning. Longitudinal studies, for example, are facilitated by a system designed to provide cumulative data (*15*, *16*). The most serious problem associated with psychiatric case registers, and one that is crucial to their survival, is their position under current legislation on data protection (*17*).

In many European countries included in the pilot study, laws were passed at the end of the 1970s and early 1980s to protect the privacy of citizens. The use of computers, particularly in the health field, has provoked new legislation intended to protect health data, and in some countries it has been difficult to find a reasonable balance between the need to safeguard professional confidentiality and the production of statistics on the health of the population required for the development of health policy, planning, teaching and research. It is worth emphasizing that a recent study by a working group, in which representatives of many of the existing European psychiatric case registers participated, failed to discover any misuse of such registers (*8*).

The costs of computerized systems have fallen over the last ten years, and it may now be more expensive to pay staff to operate manual files. Costs are particularly high during the programming and testing phases. When systems have been in full operation for many years, the costs of producing routine annual tables and lists, for example, are low. The effectiveness of cumulative systems from the point of view of research and planning increases with time, so that preserving all software in special handbooks for further use may reduce the costs of performing special tasks. The handbook of special computer programmes of the Danish psychiatric case register may be loaned to planners or researchers to facilitate their choice of programme and reduce special programming requirements.

Information systems in the pilot study areas

Phase I of the project involved establishing information systems in the pilot study areas, but certain problems had to be solved before this could be done. These included the specification of appropriate definitions and terminology for the units of information to be collected. The accuracy of the results would depend entirely on the methodology used, but the validity of comparative data from different countries or regions was also limited because of their widely divergent social and economic characteristics. The areas attached very different meanings to different types of facility, so that even data counted correctly could be misleading (*2*). Cooperation of the services concerned was obviously essential, and three pilot study areas (Aberdeen, Mannheim and Nottingham, which had case registers already in operation or were about to start one) had a considerable advantage since contact with relevant services had already been established. In other pilot study areas, establishing satisfactory communications depended on official support for the project.

Differences in the number of institutions in each area were also important. In the Netherlands, for example, there is such a wealth of facilities and institutions that communication was a real problem. In some areas, the time factor caused difficulties: Zagreb entered the project during the final stages of Phase II and started to collect data for Phases I and II at a time when there was little opportunity left for checking and correcting those data. However, within the original plan, a centre for analysis and feedback was to be established at the University Institute of Social and Preventive Medicine, Lausanne, where coding, punching, analysis and tabulation would be performed. The Phase II plan was discussed at the meeting of the third working group in Trieste in 1975, and four types of general problem were identified: (1) problems in establishing and organizing the data collection network, especially in those pilot study areas where the system had to be constructed rapidly on limited existing foundations; (2) incomplete identification of cohorts; (3) items difficult to collect; and (4) problems due to lack of cooperation.

Some of the areas had special problems resulting from the local situation: Oslo had special problems because institutions there have certain national responsibilities that could not be quantified, partly to certain areas and partly to special patients. They also serve visiting foreigners, the diplomatic corps and, to some extent, Norwegians returning from abroad, so that the availability of services in Oslo is generally higher than the national average. The information system was difficult to establish in these conditions. The El Ferrol pilot study area was also rather different from the others, since the psychiatric service was based on a mental hospital remote from most of the area it served. The situation changed in 1976, however, when a day care clinic was established. In Trieste, the situation has changed very rapidly since Phase I (*2*), making traditional methods of evaluating mental health services much more difficult to apply. In nearly all the pilot study areas, it was difficult to collect information on outpatient contacts with psychiatrists in private practice.

As far as the first two phases were concerned, a general prerequisite for obtaining reliable data was the satisfactory drafting of instructions to pilot study areas for the study on psychiatric registers (*2*), e.g. specifying codes for use in data collection. However, in spite of all these problems, it proved possible to collect data from the 11 centres then participating in the study.

By the time the working group met in October 1982, the number of participating areas had increased to 21 in 16 countries. The replies to a questionnaire on information systems showed that eight of the original 11 areas and seven of the ten "new" areas had psychiatric case registers. Table 1 shows how many of them used the registers for the purposes of the study. Thus, in 16 pilot study areas, some kind of psychiatric case register existed, but in only six did it cover all the services and agencies included in the study, making it possible to extract all the information required for the census and the first cohort studies.

In some pilot study areas, e.g. Aberdeen and Randers, psychiatric case registers were already in operation. However, both these examples

Table 1. Results of a questionnaire about the use of psychiatric case registers in the 21 pilot study areas, 1982

Pilot study area	Psychiatric case register in operation 1982	Psychiatric case register used for the census study	Psychiatric case register used for the cohort study (Phase III)
Aberdeen	(+)[a]	–	(+)[a]
Athens	+	+	+
Belgrade	(+)[a]	–	–
Brussels	–		
Dublin	+	+	+
El Ferrol	–		
Geneva	+	+	+
Groningen	+	+	+
Iaşi	+	(+)[b]	(+)[b]
Leganes	–		
Louvain	–		
Mannheim	+	+	+
Mistelbach	(+)[a]	(+)[b]	(+)[b]
Nottingham	+	–	
Oslo	+	–	
Paris 7	+	+	+
Paris 13	+		+
Randers	(+)[a]	(+)[b]	(+)[b]
Tampere	–		
Trieste	+	(+)[b]	+
Zagreb	(+)[a]		(+)[b]

[a] Limited (only inpatients/only outpatients/only certain diagnostic groups).

[b] The psychiatric case register used partially, e.g. for control of other information system.

excluded information on patients treated in outpatient clinics or by psychiatrists in private practice. In both areas, useful information could be obtained from samples extracted from the case registers, but it was not possible to use them comprehensively.

In those areas without comprehensive psychiatric case registers, samples of patients were taken from hospital records. For the census, it was necessary to count all patients occupying a hospital bed or receiving treatment in the outpatient clinic at a specified date and time. This procedure is time-consuming and requires extremely precise and detailed instructions to the staff. Further information on the patients was subsequently obtained from the information system. After the census, a number of consecutive cases at a hospital or outpatient clinic constituted the small cohorts required in the initial phases.

For the final cohort of 200 cases in Phase III, a more sophisticated method was necessary. It was essential, in each service involved, to follow all consecutive cases and to ensure that no facility was allocated a larger share of the total sample than was correct. Thus, in the Randers area at this stage, it was necessary for someone to be in daily contact with the secretaries of all facilities. Psychiatrists in private practice participating in the study were particularly anxious to preserve professional confidentiality. However, work with such an information system is possible and a correct sample can be obtained.

Experience with the pilot area study has shown that, even with traditional record systems, census studies and cohort studies involving a large number of services and agencies can be carried out provided that the sample is small.

The establishment of psychiatric case registers in pilot study areas in 12 countries meant that information systems had to be developed with extraordinary rapidity. Although many registers were designed to meet the demands of the pilot area study and were restricted to the pilot or catchment area of the centre concerned, their development was a useful epidemiological experience for all the centres. Whether the registers continue to exist after the study has been completed will depend on many factors, including the techniques used, the cost, their proven usefulness to clinicians and planners, and particularly on the data protection policy adopted, especially in terms of legislation and other measures affecting the recording of patient data. For instance, in areas where legislation prohibits the recording of patient data without informed, written consent, it is likely that psychotic and otherwise mentally disturbed patients will often refuse their consent and thus hinder the operation of a register.

Remarkably, however, centres were able to provide useful information even though no case register had been established. This was true, for example, of Brussels, El Ferrol, Leganes, Louvain and Tampere. The Belgrade centre in Yugoslavia was different in having a psychiatric case register covering exclusively psychoses and alcohol-induced disorders. The data required for the study had therefore to be collected from other sources. In some areas, temporary registration systems were used. In total, the data needed for Phases I and II (the census study and first cohort studies), for Phase III (the second cohort study) and for the study of cost-effectiveness required many different sources to be used.

Information systems in the pilot area countries

According to the report of a WHO working group (*8*), two countries (Denmark and the Netherlands) have national registers. The starting date, services covered, age and diagnostic groups included and the diagnostic classification used in these registers are shown in Table 2. Table 3 shows examples of area registers.

In the United Kingdom, where there are eight registers (Aberdeen, Camberwell, Cardiff, Nottingham, Oxford, Salford, Southampton and Worcester), contact between registers has helped to coordinate their operations through regular meetings of directors and technical staff. In order to increase awareness and interest in information obtainable from the registers, it was decided to produce a joint publication of statistics which required agreement on definitions and standard tabulations. This was not easy because different registers even within the United Kingdom

Table 2. Examples of national registers

	Danish register	Dutch register
Starting date	(1910) 1970	1966
Services		
public	X	X
private	X	X
inpatient	X	X
day patient	X	
Diagnostic classification	ICD 8	ICD 9
Age groups included	All	All – mainly 18 +
Mental retardation	Special register	Special register

do not operate in detail in the same way. Five of them use identification codes and do not include names of patients on computer files. In the United Kingdom, although national insurance numbers exist, they are not widely used and not at all by the psychiatric case registers. Expected legislation will probably make only minimal changes in the procedures used, but will lay down general rules governing methods of obtaining and storing data, etc., and provide for right of access by the individual to data relating to his case. The local registers are becoming of increasing importance, since national mental health statistics were considerably reduced in scope at the beginning of 1983.

Some countries have systems at two levels, i.e. both local and national registers. The national inpatient register for mental hospitals in the Netherlands also covers university and addiction clinics and produces annual tabulations for planning purposes. There is also a register of the mentally retarded. Each person had right of access to data stored in these computerized registers and the right to correct them. Two local registers (one at Groningen and one at Maastricht) are also in operation. The Groningen register covers extramural, day/night and inpatient services. It does not collect names or addresses, but uses a probability record linkage. Confidentiality is safeguarded by the ethics of the medical and other health care professionals concerned and by an agreement between the register team and the services involved. In the case of the other local register at Maastricht, confidentiality is safeguarded by a board which includes representatives of patient groups. No patient can be included in this register without his written consent.

The Irish national psychiatric inpatient reporting system is the responsibility of the national Medico-Social Research Board. It covers both public and private services (except for one religious hospital, which refused to participate for reasons of confidentiality). Annual reports are produced. Since 1971, data collected have included names of patients and other forms of identification. It is expected that opposition to the inclusion of such data by clinicians and civil rights organizations, as well as other national or international bodies, will have an effect on legislation and thus on research in the near future. There are also two local case registers, one in the Dublin area and one in a rural area. Data

Table 3. Examples of area case registers

	West Dublin and county register	Three county register	Groningen register	Maastricht register	Nottingham register	Mannheim register	Geneva register
Starting date	1973	1973	1973	1981	1974	1973–1981	1977
Coverage							
Geographical	230 500	150 000	45 000	200 000	400 000	310 000	350 000
Services							
—public	X	X	X	X	X	X	X
—private	X	X	X	X		X	
—inpatient	X	X	X	X	X	X)	University
—outpatient	X	X	X	X	X	X[a])	services
Diagnostic classification	ICD 9	ICD 9	ICD 9	ICD 9	ICD 9	ICD 8	French classification
Age group incl.	15 +	15 +	All	All	All	18 +	18 +
Mental retardation included	Only in psychiatry	Only in psychiatry	All inpatient	All	Only in psychiatry	Only in psychiatry	None

[a] Private outpatient only partially covered.

are obtained from interviews with patients and are stored manually in local files, each patient being identified by a local service number. They are subsequently computerized using codes only.

In Denmark, a national computer-based register of discharges from hospitals has existed since 1980 and covers 99.6% of all discharges from hospitals for somatic diseases. Each hospital has to provide information each year on tape to the National Board of Health (*18*). Registers kept by mental hospitals and other psychiatric institutions are not integrated in the general health register. The National Psychiatric Case Register for psychiatric institutions is computerized, the unit of registration being a period in hospital either as an inpatient or as a day patient. A unique personal identification number is used and record linkage makes it possible to produce short case histories. As each patient admitted is questioned about previous admissions to psychiatric institutions, incidence figures can be produced, both for psychiatric illness as a whole and for particular diagnostic groups. In addition to the computerized system, manual files also exist, consisting of short, written case histories which serve as a data bank for participating institutions, e.g. by providing data on previous admissions when a patient is readmitted to another institution. The patient's consent to the recording of information is not required, but the patient has, by law, the right of access to the data in the register and the right to correct them. A register law (in force since 1 January 1980) on computerized registers, containing information traceable to individuals, laid down provisions governing the keeping and use of such registers and established a surveillance and control authority. Certain provisions governing linkage between two registers, the time for which computerized medical records may be preserved and the administrative interest of the responsible authority may affect the use of medical registers. However, provision is also made in the law for certain exemptions, especially for medical research. On the island of Samsø, with its rural population, a special psychiatric community project has been in operation since 1957, and a corresponding filing system has been in use since the project was started. The register has been of value both for research and for practical service purposes (*19*).

In Switzerland, the Geneva local case register records the name and code number of each patient but covers only the university psychiatric institutions. There is no national register. Data protection laws exist at the cantonal level, but there is so far no federal law. Informed consent by the patient is not required for inclusion into the register. Linkage of data between two registers, e.g. between the psychiatric case register and the register of deaths, is not permitted.

In Bulgaria, countrywide statistics and data are produced every three months based on information from local systems. Registration is by name, in most cases with the consent of the patient. Registration is computerized in one area.

In the Federal Republic of Germany, the Mannheim case register included extramural, day/night and inpatient services and was in operation from 1 May 1973 to 1 June 1981, when the introduction of special rules on data protection made it impossible to continue. A new legal basis will have to be established before the Mannheim case register can resume operation.

Some of the above-mentioned countries have special rules governing access by individuals to information about them included in the register. It is surprising that neither in Groningen in the Netherlands nor in Denmark, with its nationwide registration system, have many persons exercised this right to obtain and correct information about their psychiatric record.

In many European countries, communication of health data has been restricted to "therapeutic purposes" and/or "in the public interest", under conditions strictly defined by law. The increasing use of computers in health and medicosocial services has aroused concern about the possibilities of linkage between one data bank and another and access to a data bank by, for instance, the press, employers or the authorities. The establishment of computerized information systems for personal medical or social data, in particular, has aroused the fears of certain groups, and this has given rise to much public discussion and to the imposition of restrictions. On the other hand, apprehension has also been expressed about the adverse effects of data protection legislation on the use of data for research purposes, and it has always been accepted since registers first came into use that data are far better protected in a computerized system than in local hospital files and hospital records.

Assessment of utilization of mental health services

In one pilot study area, the information system has been used in a study designed to answer the following questions.

- What patterns of utilization are found when a number of patients admitted to hospital consecutively are followed over a two-year period after admission?
- What is the relationship between patterns of utilization and sociodemographic and clinical factors (*20*)?

The information was extracted from a case register and included sociodemographic data, such as age, sex, marital status and occupation, as well as the final diagnosis and data on such service contacts as admissions, discharges and outpatient consultations over a two-year period. Facilities such as nursing homes or psychiatrists in private practice were not included. The study covered a specified catchment area in Oslo. A cumulative index of service consumption showed that 10% of patients used 75% of service resources. It was shown by bivariate and multivariate analysis that clinical diagnosis and various sociodemographic factors contribute to heavy service consumption. The same trend has also been found in other studies (*21*).

In those studies the focus was on the patient, but an information system, such as a psychiatric case register, can also be used to measure utilization in particular sections of a given population. By means of a coding system for municipalities used in the Danish national cumulative psychiatric case register (*22*), it has been possible to analyse data for the pilot study area (Randers) in terms of certain indices of utilization (Table 4). The area (with a population of about 100 000) is part of Aarhus county, which has 10% of the total Danish population. The indices shown in Table 4 are based on a comparison with data for the county as a whole and make it abundantly clear that the urban area of Randers accounts for far more hospital admissions and bed days than the rural areas and also has more day patients. If this method of analysis is applied over a number of years, the results are useful for planning purposes. Such analyses bring out clearly that indices are consistently low in all rural areas at a certain distance from day hospitals, outpatient clinics, etc. Even in a country with well developed public transport systems, therefore, remoteness from the facilities is still a factor of major importance.

Table 4. Indices of service utilization in Aarhus county
(mean for whole county = 100)

	Inpatients				Day patients	
	Admissions		Bed days			
Municipality	1981	1982	1981	1982	1981	1982
Hadsten	32	44	96	85	28	37
Langaa	67	60	73	89	28	96
Mariager	59	82	80	80	47	39
Nørhald	39	51	108	108	42	35
Purhus	44	56	88	95	41	34
Randers	129	116	115	111	178	166
Sønderhald	43	54	93	95	19	19
Aarhus county[a]	80	82	96	95	101	14

[a] Compared with whole country (mean = 100).

Conclusions

Information systems for mental health services have developed considerably over the study period, i.e. since the early 1970s. Many of the objectives, both immediate and long term, have been established. In some countries, psychiatric case registers are now in operation, either at area or national level, but in many areas ad hoc information systems were established in the course of the study. Their continued existence will depend on a large number of factors, including the techniques used, costs, their usefulness to clinicians and planners, and the data protection policy in operation.

The comparability of data produced by the many different information systems involved in the study was ensured by general agreement. Experience with the study will be useful in any future comparisons between different European countries but, in view of the rapid developments in this area, it will be necessary to keep such agreements continuously under review.

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3

Use of social and demographic data in the planning and evaluation of mental health services

G. Moschel

The 21 areas in Europe participating in the WHO study of mental health services in pilot study areas differ considerably in such respects as geography, degree of urbanization, composition of the population and socioeconomic conditions. The socioeconomic structure of the individual areas has implications for both mental health problems and for their care. In order to try to identify socioeconomic conditions that are closely linked to mental health, the sociodemographic characteristics of the different aspects of care were analysed in the pilot study areas, making it possible to define a number of social indicators that can be used to provide a comparative picture of these communities. Before the areas themselves are described, the nature of social indicators, their function and their different applications will be considered and, finally, the results of a sociological survey in Mannheim which relates to the collection of social indicators suitable for characterizing urban areas will be described.

Nature, areas of application and functions of social indicators

The 1962 NASA decision to study the effects of the space programme on United States society is usually taken as the beginning of the current widespread interest in social indicators. It was followed in 1966 by Bauer's report on the subject (*1*) and by the establishment in 1969 in the USA of a National Goals Research Staff (*2*). In Europe, the OECD established a programme in 1970 to study the possibility of formulating social indicators (*3*), although they had been used by Graunt in 1662 (*4*), Petty in 1960 (*5*) and Süssmilch in 1741 (*6*) to characterize living conditions, and the application of such indicators, e.g. to health and crime, continued during the nineteenth century (*7–9*). A large number of definitions of social indicators have been published (*2, 3, 10–15*), providing information on three main aspects: first, on their nature, second, on their areas of application; and third, on their functions or uses.

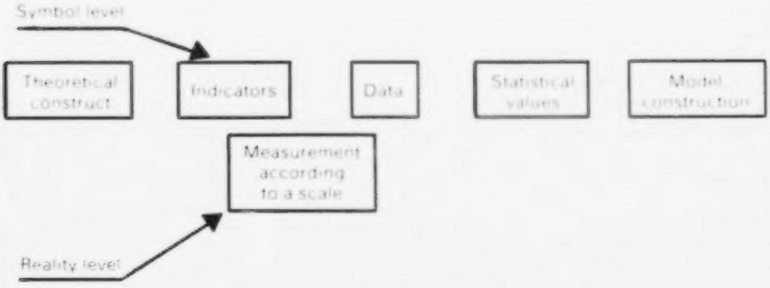
The nature of social indicators

In considering the nature of social indicators, it will be assumed that they are statistics which have the purpose of providing information about society or its central areas in a scientific manner, i.e. that they are systematic and verifiable. One means of ensuring verifiability is through the use of a common scientific language, consisting of variables and of syntax definitions of the relationships between them (*16*).

The process of collecting information in a scientific manner can be divided into several stages (*17*), as shown in Fig. 1, starting with the theoretical construct which must be operationalized by means of indicators. These, in turn, are assigned values on a numerical scale, and these values are referred to as data, which are then treated to give statistics. The final stage is that of model construction.

A great number of societal conditions to be described by variables defy direct observation and quantitative (statistical) measurement. Such phenomena as social isolation, anomy, urbanism, etc., that are not directly observable, are referred to as constructs and must be operationally defined in such a way that observations and measurements are feasible. An operational definition answers the question "What is social isolation?" by explaining how social isolation is measured. It should be emphasized that the problem of translating theoretical constructs into indicators arises even in the case of the simplest constructs, such as "resident population of a town or city". This needs to be operationalized through such indicators as "registration of the inhabitants", "permanent stay for reasons of studies or vocational

Fig. 1 Scientific data collection process



Source **Werner, R.** *(17)*

training", "permanent accommodation in barracks, institutions, prisons, etc.".

Since constructs can be operationalized through many indicators in the case of each construct, this process represents a selection from the hypothetical universe of indicators, so that the meaning of an indicator is always more limited than that of a construct. The degree of representativeness of the selected indicators determines how far the meaning of the indicators approximates to the denotation of a theoretical construct.

In connection with the operationalization of theoretical constructs, some more technical aspects need to be considered, and the most important of these is the question of validity. Indicators have to be valid, i.e. suitable for genuinely measuring that property of a theoretical construct that they are supposed to measure. If, for example, the variable "income" is used as an indicator of the construct "poverty", and all members of a society with a monthly income of less than DM 800 are defined as poor, when this criterion is used, a number of persons who do not consider themselves poor are classified as such and, on the other hand, some that regard themselves as poor are excluded. Thus, the validity of the indicator "income" used to operationalize "poverty" must be questioned in view of the discrepancy between objective and subjective assessment of the economic status.

Problems of validity also arise with the use of data from official statistics, which are often collected for administrative purposes. When using these for scientific purposes, possible errors which the use of such data may lead to must be examined. For example, the classification of the labour force as blue-collar workers, white-collar workers and civil servants, the self-employed and freelancers—which is commonly used in social statistics—may be useful in the field of social insurance, but the application of these categories to form socioeconomic classes is highly problematic. Another problem of validity may arise when collective data are used as indicators. Incorrect interpretations then result from the "ecological fallacy" (problems arising when individual properties are deduced from collective data) or from the omission of a distinction between aggregate data (i.e. aggregated individual data, such as population-based divorce rates, which are derived from the number of divorces) and global data (i.e. that describe only groups of individuals and thus cannot be disaggregated, such as laws relating to divorce, when used to characterize societies).

Many theoretical constructs have properties belonging to several dimensions, and the description of a construct is approximately complete only if all essential dimensions of the construct have been taken into account. The use of indicators requires two basic skills: that of finding dimensions for constructs and that of finding informative indicators for each dimension of any construct. For example, to describe the health standard of a population, not only indirect morbidity measures (such as infant mortality and mean life expectancy) and input measures (indicators of the availability of treatment facilities) are traditionally used, but also incidence and prevalence rates of certain illnesses. However, these measures are usually based on a one-dimensional concept of illness, in which the dimensions of psychological impairment and social disability are not taken into account.

Application of social indicators

In relation to the areas of application of social indicators, we must ask what are the important or central areas of social concern to be described.

The systems theory approach postulates a theoretical framework for social indicators, i.e. it assumes a certain amount of prior knowledge of society, which enables us to identify the areas of major social concern. Here, society is regarded as a goal-oriented system of a complex structure. The description of this system requires the use of social indicators that, on the one hand, identify the structures of the system and the relationships between them and, on the other, determine the extent to which that system has attained its goals. It must be remembered, however, that in an open system, agreement on what such goals should be may be limited, if not completely lacking.

In contrast, in the governmental approach (*17*), the most important social problem areas are those in which official bodies take the greatest interest, and social indicators will be applied to such areas and to those that can be influenced by government intervention. The danger of this approach is that it cannot transcend the limitations of the society itself. In general, there is a recognized need for indicators of the following major social concerns: (1) demography; (2) the health system; (3) the educational system; (4) occupations and gainful employment; (5) the industrial situation and available income; (6) the physical environment and housing; (7) public order and personal safety; (8) the allocation of time, including leisure time; and (9) social opportunities and participation.

Functions of social indicators

As far as the functions or uses of social indicators are concerned, these have been listed by the Statistical Commission of the United Nations Economic and Social Council, as follows (*19*):

—monitoring trends in wellbeing or welfare;
—monitoring social service facilities and activities;
—measuring individual aspirations and perceptions;
—measuring social structures, conditions and processes.

Essentially, it may be said that social indicators should provide, firstly, scientifically based information on social reality that enables social phenomena to be characterized and, secondly, evidence showing the need for social changes and a basis for the planning of such changes.

In practice, information is collected on a subject only when the latter is seen as a problem, and changes are made only when they seem necessary. Thus, "the 'indicator-as-problem' and 'indicator-as-goal' are the obverse and reverse of the same reality" (*2*).

Social indicators in the pilot study areas

Before an attempt is made to characterize the pilot study areas by means of a number of indicators, certain problems that generally arise in the construction and interpretation of indicators in international comparative studies will be briefly considered.

The problems of indirect measurement have already been mentioned. For the sociodemographic characterization of the pilot study areas, only secondary data from official statistics are available, particularly data furnished by the ten-yearly population censuses. Annual extrapolations made by statistical offices normally provide information only on trends in the population and its age and sex composition: 1% or 0.1% microcensuses, performed at shorter intervals, do furnish more detailed information than extrapolations, but they are representative only of the population of a given region, not of a specific territorial subdivision. Only complete censuses provide fully broken down local data, such as those required for the description of the pilot study areas. In view of the fact that the sociodemographic characterizations developed by the areas are based on the most recent data available at the time, and that in some of the 16 participating countries the last censuses took place in 1971 and in others in 1981, the requirement that all data must be collected at the same time if comparisons are to be valid cannot be satisfied. Despite this, however, the information that is collected can be of considerable value for planning the activities of mental health services at the local level.

Compared with the approach illustrated in Fig. 1, the investigator himself is not involved in the measurement process when applying secondary data. The construction of indicators proceeds in the opposite direction. Since the data are already available, the investigator must endeavour to use them to operationalize the desired construct, i.e. the extent to which the construct corresponds to its operational definition depends on the nature and choice of the existing data. As such data are in most cases not collected specifically for scientific purposes, the choice of data for the operational definition is based on assumptions as to their relevance, which immediately give rise to doubts as to the validity of the indicators.

The problem of the validity of indicators in international comparative studies also arises in connection with the differing conditions in the various areas, e.g. in the case of some of the countries participating in the study where divorce is not legal or is subject to social sanctions (Ireland, Italy and Spain). The use of the divorce rate as an indicator of family disorganization, which is not uncommon in the literature, then runs into insurmountable difficulties of interpretation, since the measurements in question do not provide an accurate picture of the facts. The same applies to the use of suicide and delinquency rates to operationalize the construct of social stability.

Size and population density

The 21 pilot study areas can be grouped together in the first place on the basis of regional characteristics:

—nine of the areas (Aberdeen, Dublin, El Ferrol, Geneva, Mistelbach, Nottingham, Randers, Tampere and Trieste) are geographical regions consisting of a number of administrative districts;
—six of the areas are towns of different sizes (Belgrade, Groningen, Iaşi, Leganes, Louvain and Mannheim);
—six of the areas consist of one (Paris 7, Paris 13 and Zagreb) or several parts of cities (Athens, Brussels and Oslo).

These differences in regional characteristics naturally imply that there are considerable variations in the degree of urbanization. Although seven out of the nine geographical regions (Geneva is an exception because of the progressive urbanization of the surrounding countryside) include more or less extensive rural sectors, the remaining pilot study areas are highly urbanized. This is reflected above all in the high population density of those areas, a point that emerges clearly from the figures for this indicator shown in Table 1, from which it will be seen that the density varies from 37 per km^2 in Tampere to 22 841 per km^2 in Paris 13.

Measurement of the population density of the pilot study areas can also be used to show differences within the areas. This is particularly true of the very extensive areas, such as Aberdeen, El Ferrol or Tampere, where internal differences in population density between the urban and rural sectors are considerable. However, within some of the large urban areas (Belgrade, Brussels and Geneva), internal variations in population density from the centre to the periphery are also considerable. The internal differentiation of the population of the areas naturally influences the utilization of mental health services, which are generally located in the densely populated sectors. Geographical proximity and availability of services are an important factor in attitudes relating to the seeking of care (*20–23*).

Age and sex composition

The need for and use of mental health services in a given area are to some extent determined by the proportions of certain age groups within the population, e.g. the proportions of children and of the elderly, both of whom tend to have high dependency needs. As shown in Table 2, the proportion of children (under 15 years) ranges from 12% in Paris 7 to

Table 1. Pilot study areas according to population, population density and internal differentiation

Pilot area	Type of catchment area	Population (absolute)	Area in km²	Mean population density	Internal differentiation
Regions					
Austria Mistelbach	Administration district (Bezirkshauptmannschaft)	1971: 75 092	1290	58	Town of Mistelbach: 10 174 inhabitants 2 small towns both with a population of about 5000 inhabitants 32 predominantly rural communities
Denmark Randers	Part of the county of Aarhus	1978: 114 854	1134	101	Town of Randers: 63 967 inhabitants 6 mainly rural municipalities between 7800 and 9800 inhabitants
Finland Tampere	Mental Health district North Hame	1978: 321 195	8606	37	City of Tampere: 165 519 inh.; 316/km² Town of Mantta: 8035 inh.; 131/km² 6 municipalities (decreasing pop.): 51 053 inhabitants 6 sparcely populated rural municipalities: 15 818 inhabitants
Ireland Dublin	A part of the city of Dublin and the adjoining part of the County of Dublin	1979: 220 437	not stated		
Italy Trieste	Territory of the Province of Trieste	1971: 330 304	211	1423	City of Trieste 6 small adjacent communities
Spain El Ferrol	One of three mental health sectors of the Province of La Coruna as catchment area	1980: 239 547	1609	149	City of El Ferrol: 93 262 inh. } 482.2/km² 8 small towns: 87 031 inh. } 12 municipalities: 59 254 inh.; 47.9/km²
Switzerland Geneva	Canton of Geneva	1979: 340 654			City of Geneva: 52.4 % of total population adjoining communes
United Kingdom Aberdeen	City of Aberdeen and County of Aberdeenshire	1971: 320 035	5118	63	City of Aberdeen: 3634.2 inh./km² County of Aberdeenshire: 27.2 inh./km²
United Kingdom Nottingham	City of Nottingham and 3 adjacent districts	1981: 380 023	125	3285	
Cities					
Belgium Louvain	Health region (part of an administrative district)	1981: 314 138			City of Louvain: 1502 inh./km² 20 municipalities

Table 1 (*Contd.*)

Pilot area	Type of catchment area	Population (absolute)	Area in km^2	Mean population density	Internal differentiation
Fed. Rep. Germany Mannheim	City of Mannheim	1976: 311 531	145	2148	
Netherlands Groningen	City of Assen	1976: 43 783	ca. 52	836	
Romania Iaşi	City of Iaşi	1981: 294 784	92.3	3194	
Spain Leganes	City of Leganes	1976: 155 893			
Yugoslavia Belgrade	City of Belgrade	1971: 1 209 361	3222	375	10 urban communes with a mean of 3184 inh./km^2 6 suburban communes with a mean of 79 inh./km^2
Urban areas					
Belgium Brussels	Two of 19 urban communes of the city of Brussels	1981: 201 518	ca. 26.8	ca. 7159	Anderlecht: 94 764 inh.; 5036/km^2 Schaerbeek: 106 754 inh.; 13 302/km^2
France Paris 7	One of 20 urban areas (arrondissement)	1975: 75 845	not stated		
France Paris 13	One of 20 urban areas (arrondissement)	1975: 163 735	7.2	22 741	
Greece Athens	Two boroughs of greater Athens	1971: 74 266	3.85	19 290	
Norway Oslo	Two areas of the city of Oslo, the catchment area of a circumscribed mental health service	1978: 107 302	49	2190	
Yugoslavia Zagreb	One of several municipal communes	1981: 62 963	not stated		

Table 2. Age and sex composition of the population

	Pilot study area																				
	MISTELBACH 1	BRUSSELS 2	LEUVEN 3	RANDERS 4	MANNHEIM 5	TAMPERE 6	PARIS 7 7	PARIS 13 8	ATHENS 9	DUBLIN 10	TRIESTE 11	GRONINGEN 12	OSLO 13	IAȘI 14	EL FERROL 15	LEGANES 16	GENEVA 17	ABERDEEN 18	NOTTINGHAM 19	BELGRADE 20	ZAGREB 21
Age																					
(percentage of total population)																					
< 15	25	19	20	24	17	20	12	15	21	33	16	25	15	27	23	45	18	23	21	20	18
15–64	58	64	67	63	68	68	69	70	69	61	67	64	66	67	64	53	69	63	65	72	68
65–74	11	17	13	8	10	8	11	9	7	6	17	6	11	4	8	1	8	8	9	5	9
≥ 75	6			5	5	4	8	5	3			5	8	2	4	1	5	5	5	2	5
unknown															1					1	
Sex ratio																					
total population (number of males per 100 females)	88	90	98	99	93	91	84	91	91	98	87	94	86	95	103	102	88	91	95	96	88
population 65+ (number of males per 100 females)	56	96	71	81	59	54	53	52	73	68	61	68	57	69	165	59	58	62	39	71	61
Youth dependency ratio	43	30	30	38	27	29	18	22	30	53	24	39	23	41	35	86	25	37	32	27	26
Age dependency ratio	30	27	20	22	21	18	28	20	15	10	26	16	28	9	19	4	19	22	23	10	20
Dependency ratio	73	57	50	60	48	47	46	42	45	63	50	55	51	50	54	90	44	59	55	37	46

45 % in Leganes, with a mean of 21.8 %, and the proportion of the elderly (65 years or more) ranges from 2 % in Leganes to 19 % in Paris 7, with a mean of 12.6 %. In terms of the mean values, eight of the areas (Aberdeen, Dublin, El Ferrol, Groningen, Iaşi, Leganes, Mistelbach and Randers) have an above-average proportion of children, and 13 (Aberdeen, Brussels, Geneva, Louvain, Mannheim, Mistelbach, Nottingham, Oslo, Paris 7, Paris 13, Randers, Trieste and Zagreb) have an above-average proportion of the elderly.

An above-average proportion of children (over 21.8 %) can be used as an indicator of an expanding or fertile population and an above-average proportion of the elderly (over 12.6 %) as an indicator of a stagnating or aging population. Table 3 gives comparative figures for pilot study areas with low and high proportions respectively of the elderly and of children.

The second part of Table 2 shows dependency ratios. Such ratios are indicators of support needs. They show how many dependent persons (children under 15 years and/or the elderly over 65 years) must be supported by each 100 population of the intermediate (economically active) age group. Dependency ratios provide the initial information on the social sectors for which greater financial and social expenditures are necessary. High youth dependency ratios are generally typical of less urbanized populations, in this case those of the areas that include suburban or rural sectors (Aberdeen, Dublin, El Ferrol, Iaşi, Mistelbach and Randers) while the highly urbanized areas (Brussels, Oslo, Paris 7 and Trieste) show higher age dependency ratios. This form of global characterization, however, leaves out of account certain confounding factors that influence the composition of the population apart from the fertility aspect, e.g. migration from the countryside of young economically active groups of the population seeking work in distant towns, and

Table 3. Pilot study areas with low and high proportions of old people (65 years or more) and proportions of children under 15 years

Proportions of children in areas with low proportions of old people		Proportions of children in areas with high proportions of old people	
Tampere	20%	Mistelbach	25%
Athens	21%	Brussels	19%
Dublin	33%	Louvain	20%
Groningen	25%	Randers	24%
Iaşi	27%	Mannheim	17%
El Ferrol	12%	Paris 7	12%
Leganes	45%	Paris 13	15%
Belgrade	20%	Trieste	16%
	$\bar{x}$ = 25.3%	Oslo	15%
		Geneva	17%
		Aberdeen	23%
		Nottingham	21%
		Zagreb	18%
			$\bar{x}$ = 18.4%

differences in life expectancy or housing construction policy, which can lead to rapid social change within an area.

Family status

Adults living alone, the widowed and the divorced are assumed in the literature to be high-risk groups with respect to mental illness. This assumption is based on findings concerning the effect on mental vulnerability and on the occurrence of disease of certain life-altering events, such as divorce and widowhood (*24–27*), social isolation, especially among the elderly (*28–31*), and the breaking of social bonds (*32*, *33*).

The first part of Table 4 shows the family status of the population in the pilot study areas. Of more importance than the figures for the total population are perhaps those relating to the unmarried elderly population, as shown in the second part of the table. If the percentage of the unmarried elderly (single, widowed and divorced) in relation to the total population in this age-group is taken as in indicator of social isolation, an average is obtained of 54% of the elderly as living alone. As could be expected from the sex ratio among the elderly (averaging 68 men to 100 women in the age group 65 years or more, as shown in Table 2), the proportion of the female elderly (aged 65 years or more) living alone (64%) is particularly high. In that respect, the difference between the pilot study areas is not very marked: ten out of the 16 areas for which data on family status are available show above-average values.

Foreign workers

It is not possible to consider the composition of the population without reference to the existence of minorities and, in this connection, mention should first be made of the social situation of foreign and migrant workers. At a relatively early stage, attention in psychiatric epidemiology was focused on the connection between international migration and mental illness (*34*, *35*). However, even internal migration is associated with higher rates of mental illness than for settled populations (*36–38*). Irrespective of the different reasons for migration, it is clear that the increased rates of psychosomatic illness, under-utilization of health care services and deviant behaviour that have been observed are due to an "acute sense of uprootedness, difficulties of adjustment, frustration of expectations and a restriction of the social field" (*39*).

The problem of minorities manifests itself in very different ways in the pilot study areas. If the percentage of foreigners among the population is taken as an indicator, large proportions of migrants and foreign workers are found primarily in the group of highly urbanized areas (Brussels, Geneva, Louvain, Mannheim, Paris 7 and Paris 13) and in the Aberdeen area, where the oil industry is an important feature. The

Table 4. Population by marital status and unmarried elderly population

	Pilot study area																				
	MISTELBACH 1	BRUSSELS 2	LEUVEN 3	RANDERS 4	MANNHEIM 5	TAMPERE 6	PARIS 7 7	PARIS 13[a] 8	ATHENS 9	DUBLIN 10	TRIESTE 11	GRONINGEN 12	OSLO 13	IAŞI 14	EL FERROL 15	LEGANES 16	GENEVA 17	ABERDEEN 18	NOTTINGHAM 19	BELGRADE 20	ZAGREB[a] 21
Marital status (percentage of total population)																					
single	42	39	38	43	37	44	41		43	56	37	46	41	44	45	60	41	26	42	41	
married	46	48	54	47	50	45	45		49	40	52	47	46	53	48	38	48	64	47	50	
widowed	11	9	7	7	9	7	9		7	4	11	5	7	2	6	2	6	9	7	5	
divorced/separated	1	4	1	3	4	4	5		1			1	6	1	1		5	1	3	3	
Not married (%)																					
males 65+	28	30	29	30	24	28	29		20	31		27	25			34	26	31	28	17	
females 65+	71	68	59	61	68	72	72		62	68		63	69			36	67	68	62	57	
population 65+	54	55	46	47	52	57	57		46	63		49	53			67	52	54	49	40	

[a] Not stated.

populations of the six large urban areas include an average of 17% of foreigners, with the highest proportion (31.4%) in Geneva. It must, however, be borne in mind that, in cities such as Brussels, Geneva and Paris, many of the foreigners work for international organizations and the proportions of foreign workers are below the mean value. The situation in the Aberdeen area is a special one; the oil workers there are well-paid specialists who cause few problems of integration. On the contrary, it is among the local population that problems arise as a result of rapid social change due to industrialization.

In the second group of areas (El Ferrol, Leganes, Oslo and Zagreb), the composition of the population is affected by an influx of workers from the countryside. Problems of adaptation arise not from the need to integrate into a foreign culture but rather from the loss of the traditional social ties that characterize rural areas and their replacement by an anonymous urban society.

In Trieste, special problems have arisen from the political situation there and the immigration of many Yugoslav nationals after the Second World War.

At the other end of the scale, areas such as Athens, Belgrade, Dublin, Groningen, Iaşi, Mistelbach, Randers and Tampere report only insignificant or no foreign populations.

Employed population and economic sectors

Indicators of employment should provide information on the extent to which the interests and activities of individuals contribute to the production of goods in a society. Under favourable economic conditions, the employment rate rises, whereas in an unfavourable situation, optimum use is not made of abilities and skills for production, unemployment rises, living conditions deteriorate, and social problems and life crises for the individual increase.

For the purpose of determining indicators of employment, it should be noted that the official statistics are based on a subdivision of the population into economically active and inactive groups, with the former group further subdivided into the gainfully employed and the unemployed.

Table 5 deals only with the gainfully employed. The first part of the table gives the numbers of the employed in relation to the population not adjusted for age. The second part of the table shows the proportions of the employed among the economically active population aged 15 years or more; an upper age limit was not set, since many pilot study areas reported employed persons aged 65 years or more. In both cases, the proportions of employed men among the male population and the proportions of employed women among the female population, as well as the proportions of all employed within the total population, are given. The second part of the table shows that an average of 55% of the population aged 15 years or more were economically active at the time the data were collected.

Table 5. Employed population by sex

	MISTELBACH, 1971	BRUSSELS, 1970	LEUVEN	RANDERS, 1976	MANNHEIM, 1970	TAMPERE, 1975	PARIS 7, 1975	PARIS 13, 1975	ATHENS, 1971	DUBLIN, 1971	TRIESTE, 1971	GRONINGEN, 1971	OSLO	IAŞI 1981	EL FERROL, 1980	LEGANES, 1976	GENEVA, 1980	ABERDEEN	NOTTINGHAM, 1981	BELGRADE, 1978	ZAGREB
Employed population	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Males as a percentage of all males	54				63	53		60	49	55		47		69		48			51	58	
Females as a percentage of all females	30				34	41		47	37	23		18		31		10			35	33	
Percentage of total population	41	43			48	47	49	53	43	39		32		59	31	29			43	45	
									a)		b)						c)				
Males as a percentage of males<15	74				80	68		72	63	83	67	63				91	63		66	74	
Females as a percentage of females<15	38				41	51		54	46	33	56	24				18	38		43	41	
Percentage of population <15	54			60	60	59	54	62	54	57	62	43			40	53			54	57	

a) Not included are 5.4% of the children between 10 and 14 years, which are economically active.

b) Percentages related to males between 15 and 60 years and females between 15 and 55 years.

c) Unemployed included.

Whereas on average somewhat less than three quarters of the economically active male population were in gainful employment, the corresponding proportion of women was 40%. In only three of the pilot study areas were more than 50% of the economically active female population engaged in work outside the home (Paris 13, Tampere and Trieste).

Changes in social structure are determined primarily by industrial development. The scale of industrial development is reflected in the productivity in three sectors (*40*): the primary (agriculture), the secondary (processing, including industry and trade), and the tertiary (commerce, banking, transport, administration, services and independent professions).

Table 6 summarizes the available information concerning the proportions of the employed population in the different economic sectors. Apart from Mistelbach, the pilot study areas are characterized by a high degree of industrialization. Internal differences in the forms of industrialization, as in the case of agriculture-based sectors in Tampere, are evened out in the economic structure of the cities. The major differences between the pilot study areas lie in the emphasis placed on the secondary and tertiary sectors. In eight out of the 13 areas for which statistics are available, 50% or more of the employed population work in the tertiary sector, so that the transition to a "post-industrial society" (*41*) is fully under way.

Table 6. Employed population by economic sector

Pilot study area	Primary sector (agriculture)	Secondary sector (industry)	Tertiary sector (services)
Mistelbach (1971)	40%		
Brussels (1970)	—	26%	74%
Louvain (1979)[a]		54%	
Randers (1977)[b]	8%	33%	54%
Mannheim (1970)	1%	53%	46%
Tampere (1975)	—	50%	50%
Paris 7 (1975)	—	19%	81%
Athens		Not stated	
Dublin (1971)	—	Ca. 55%	45%
Trieste (1971)	0.8%	33%	66%
Groningen (1971)	—	Ca. 25%	61%
Oslo		Not stated	
Iaşi (1981)	1%	59%	40%
El Ferrol		Not stated	
Leganes (1976)	—	75%	25%
Geneva (1980)	1%	22%	76%
Aberdeen		Not stated	
Nottingham		Not stated	
Belgrade (1978)	2%	25%	73%
Zagreb		Not stated	

[a] Calculated for greater Louvain.
[b] Calculated for Denmark.

The proportions of the employed population in the different economic sectors are, however, not only indicators of the development of a social system, but they also provide some information on the level of social stress in terms of the rates of change in particular sectors. In particular, it can be expected that, with increasing automation, it will be possible to achieve the same industrial output with a smaller labour force and without corresponding numbers of jobs becoming available in the tertiary sector. At different times in the 1970s, a few areas reported increased unemployment rates (11.9% in Randers in 1979 and 16% in Leganes in 1976) but the situation must have changed in the mean time. For 1971, Dublin reported an unemployment rate of 7.6% (proportion of those not gainfully occupied among the total workforce), whereas in 1975 the rate stood at 12%.

Finally, it should be mentioned that the proportion of employed women in relation to the total employed population is often used in the literature as an indicator of the degree of urbanization of a social system. This view is based on the assumption (which could not be confirmed by the data available) that this proportion is greater in societies with high levels of employment in the tertiary sector than in those characterized by agriculture or industry.

Development of social indicators in Mannheim

As explained earlier, it is not possible in studies based on secondary information to collect the actual data that are to be used for developing indicators. Therefore, in secondary data analysis, the construction of indicators involves the selection for operational definition of those of the available data that are capable of measuring the construct in question with the necessary degree of reliability.[a]

Two approaches to the development of indicators may be distinguished. The first consists of collecting or selecting data which, in the light of theoretical insights or existing knowledge, appear to be appropriate for the measurement of the construct in question. The second consists of attempting to process the collected or existing data statistically in order to identify the structures that underlie or are inherent in them. Factor and cluster analyses are suitable for breaking down quantities of data according to the similarities between them. The factors thus isolated can be used as indicators for the study of the characteristics (individual or group) to which the data relate.

The aim of the study briefly described here was to develop social indicators that could be used for characterizing the 41 urban districts of Mannheim. In keeping with the second of the two above-mentioned approaches, factor analysis was chosen as the method. In order to gain as comprehensive a picture of the socioecological structure of Mannheim as possible, a total of 87 variables from the last population census were factor analysed. In this way, the large number of district-specific variables was condensed into a smaller number of factors. The following five factors, which explain approximately 75 % of the variance of the original census data, were extracted: (1) social rank; (2) elderly population; (3) housing and degree of crowding; (4) family status; and (5) unmarried young population.

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[a] The development of indicators has a creative aspect, but the fact of depending on official statistics, which as a rule are presented without a theoretical basis, is considered to be a challenge in itself. This can be seen, for example, in the remark which is often made that the data of official statistics are useless.

Factor	Percentage variance explained	Cumulative percentage variance explained
(1) Social rank	21.7	21.7
(2) Elderly population	21.4	43.1
(3) Housing and degree of crowding	15.1	58.2
(4) Family status	10.1	68.3
(5) Unmarried young population	6.5	74.8

In the following, the five factors will be described by means of some selected characteristic variables.

Factor 1, "social rank", was characterized by variables relating to education, occupation and nature of housing.

Selected variables	Loading
Completion of primary school	0.96
Manual workers	0.91
Dwellings without bathrooms	0.66
Foreigners	0.45

Factor 2, "elderly population", was characterized by positive loadings of variables relating to the elderly and negative loadings of those relating to families with children.

Selected variables	Loading
Widowed	0.91
Population over 65 years	0.90
Families with single children	0.85
Population under 18 years	0.78

Factor 3, "housing and degree of crowding", was characterized by variables relating to housing characteristics.

Selected variables	Loading
Home ownership	0.88
Rented accommodation	0.84
Persons per building	0.79
Single-family dwellings	0.79

Factor 4, "family status", was characterized by variables relating to household size and the early phase in the cycle of family life.

Selected variables	Loading
Population under 6 years	0.75
Fertility ratio	0.69
Population under 18 years	0.46

Finally, factor 5, "unmarried young population", was characterized by variables relating to family status and sex.

Selected variables	Loading
Married	0.68
School attendance	0.60
Employed female population	0.58
Single	0.59

One means of characterizing the urban districts of Mannheim on the basis of the five factors was to calculate factor scores, i.e. which are applicable to the individual districts in terms of those factors. By the use of mathematical procedures not described here, five factor scores, corresponding to the number of factors extracted, were ascertained for each of the 41 urban districts. In this way, a score is determined for each of the 41 urban districts for the indicator "social rank". The scores for social rank vary between −1.25 and +2.63, the districts with a value of −1.25 being of the lowest and those with a value of +2.63 of the highest. For the purposes of classification, the 41 district scores were then ranked on the basis of the factor and these rankings subdivided into four intervals of −1.01 or under, −1.00 to −0.01, +0.01 to +1.00 and +1.01 and over. Districts with values of −0.01 to −1.00 were placed in the category of low, and those with values of +1.00 and over were placed in that of high social rank.

The scores for the four other factors or indicators were determined analogously. Fig. 2–6 show the distribution of the urban districts according to the five indicators. The lightly shaded districts have high

Fig. 2. Distribution of social rank in Mannheim, 1970 (41 urban areas)

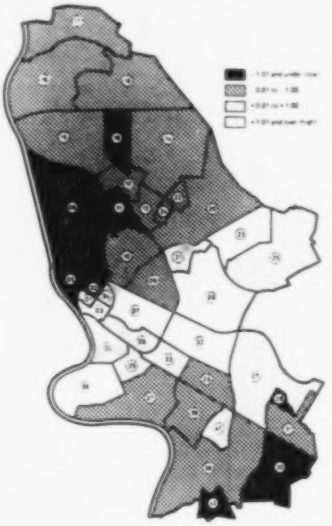


Fig. 3. Distribution of elderly population in Mannheim, 1970 (41 urban areas)

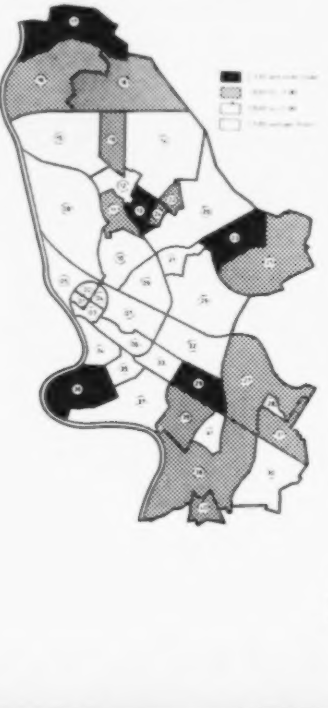


Fig. 4. Distribution of housing property and density in Mannheim, 1970 (41 urban areas)

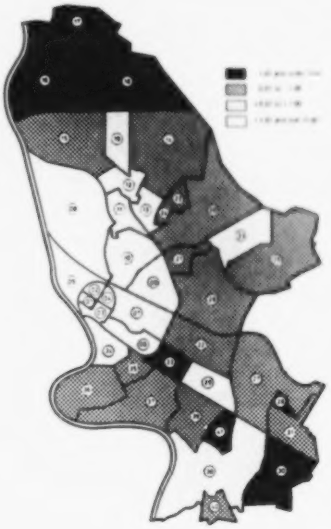


Fig. 5. Distribution of family status in Mannheim, 1970 (41 urban areas)

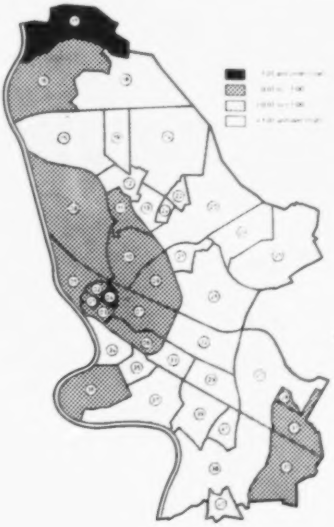
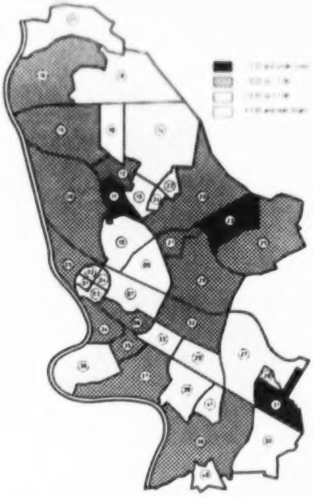


Fig. 6. Distribution of unmarried young population in Mannheim, 1970 (41 urban areas)



values for social rank, the proportion of the elderly within the total population, housing density, family status and the proportion of the unmarried young population.

The development of social indicators and their use in characterizing the districts naturally raises the question of the significance of such indicators for the distribution of mental illness and of social problems. To answer this question, a distribution of the registered patients within the districts was worked out on the basis of the cumulative psychiatric case register for Mannheim as a whole. The same process was applied to the police records of attempted suicide and to the records of officially known juvenile delinquents.

In the next stage of analysis, the question was examined whether the distribution of mental disorders and social problems depends on the extent of social indicators in the districts, e.g. whether more young people officially registered as delinquent live in districts of low social rank than in those of high social rank. To examine these relationships, use was made of chi-square tests, whereby the distribution of the recorded cases was compared with those of the population at risk in the four types of district. Factor 5, which has only a small influence on the determination of the total variance, was not taken into account. Table 7 gives the computed chi-square values.

In conclusion, it may be said that the distribution of the mental disorders in question is dependent on the housing structure and density, the proportion of the elderly population and, to a lesser extent, on the social rank of the districts. In the case of attempted suicide, there is a link with the social rank and housing structure of the districts while the

Table 7. Chi-square values for the distribution of psychiatric disorders, attempted suicide and juvenile delinquency in different types of urban area

Factor	Psychiatric disorders		Attempted suicide		Juvenile delinquency	
	χ^2	P	χ^2	P	χ^2	P
Social rank	6.0	0.2	15.5	0.01	20.3	0.001
Elderly population	9.4	0.05	Not stated		7.9	0.05
Housing and degree of overcrowding	21.8	0.001	24.7	0.001	12.3	0.01
Family status	Not stated		Not stated		20.5	0.001

rates of officially recorded juvenile delinquency are linked to all four indicators. In particular, there are higher rates of juvenile delinquency, attempted suicide and, to a limited extent, mental illness in districts of low social rank than in those of high social rank. The same applies to housing structure: in areas with higher proportions of home ownership and lower housing density, recorded rates of mental illness, attempted suicide and juvenile delinquency are lower than in districts characterized by high housing density and smaller proportions of home ownership. Contrary to what might be expected, juvenile delinquency is less common in districts with a high proportion of the elderly than in family-oriented districts.

In studies such as that described here, therefore, social indicators can be used for the identification of populations at risk. They provide objective criteria for the organization of mental health and social services in high-risk areas and, by making possible comparisons over a period of time, can be used to determine rates of structural change in the patterns of mental illness and of social problems.

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4

Mental health services models in Europe

D. Walsh

Formal systems of mental health care are a comparatively recent development since national commitments to the systematic provision of care for the mentally ill belong almost exclusively to the nineteenth century. It was only at the beginning of this period that it came to be recognized that the mentally ill constituted a separate category of needy and indigent persons. Up to this time, such provision as was made—and it was haphazard and varied from place to place—was part of the general provision for those incapable of looking after themselves and in need. Thus, the mentally ill were catered for jointly with the poor, the mentally retarded, the physically disabled and other destitute groups. In medieval times and long afterwards, this care was often provided by religious orders in monasteries or hospices. In this context, it is interesting to note that the inpatient institution providing care for the El Ferrol pilot study area, the Conjo Sanatorium, is a twelfth century Romanesque monastery, subsequently renovated and enlarged, which has catered exclusively for the mentally ill since the end of the nineteenth century.

In the eighteenth century, the mentally ill were to be found in many different places. Some were in institutions such as jails, some in hospices founded and administered either by ecclesiastical or lay organizations—for the most part voluntary—but many of the mentally ill were "at large", either with their families or wandering the countryside. They were usually in an unsatisfactory condition, a prey to disease and early death. However, the eighteenth century saw the beginning of the identification of the mentally ill as a separate category of disabled persons. It was hardly surprising, therefore, that sporadic efforts to provide institutional care for the mentally ill should then have been made all over Europe. Initially, there tended to be a bias towards providing care for the mentally ill members of wealthy or noble families, who were either a serious embarrassment to their kinsfolk or an obstacle to the orderly inheritance of property and power. This need led to the development of the "private mad house" movement whereby homes, often of dubious quality, were set up and run for profit to cater for this class of person. However, not all institutions in the eighteenth century were of this type. Some were established with genuine charitable intent, one such being Swift's Hospital in Dublin, established under the provisions of a bequest of the celebrated Dean Swift. This hospital was built in 1745 and still provides private care to those persons in the pilot study area of Dublin, which the hospital adjoins, who are willing and able to pay for it.

However, it was in the nineteenth century that a tradition was established in the care of the mentally ill which still marks and colours most of the mental health services of contemporary Europe. By the close of that century, the number of the institutionalized mentally ill had increased by a factor of three, or in some cases even more, as compared with its beginning. The reasons for this are unclear; the problem of whether the increase in mental illness was "real" or only "apparent" is still unsolved, and the disagreement continues. In other words, the evidence available to us today does not enable us definitely to say whether the increase in institutionalized mental illness over the period 1800–1900 was the consequence of an increase in the *incidence* of mental illness itself or whether it was due to *nosocomial* factors, the latter being those factors, other than an actual increase in the incidence and prevalence of the illness, that made it *seem* that illness had increased. These would include the greater visibility of the mentally ill because they were being brought together and placed in institutions. In addition, the more this was done, the greater would be the demand for further institutional places (more beds, more hospitals) though not necessarily from the mentally ill themselves. Thus, supply may have increased demand, and demand in turn ensured an increasing supply of beds and hospitals.

The nineteenth century approach to the mentally ill was essentially to institutionalize them and to provide the institutions necessary for this purpose, but the motives underlying this approach have been disputed. Some saw the hospital or asylum movement as springing from overt, genuine humanitarian concern for the mentally ill, combined with the increasing expectation that medicalization of care for those in institutions would lead to improvement and cure. Others, such as Foucault (*1*), looking back from the present century, see the growth of institutional care as an instrument of social control over a body of individuals who were a fiscal embarrassment to the orderly running of an increasingly bourgeois and industrial society.

Whatever the motivation, by 1900 the greatest proportion of Europe's mentally ill who received any form of professional care were resident in institutions specially designed, constructed and continually enlarged to contain them as the century wore on. Furthermore, this was the outward expression of a policy that was both clearly perceived and articulated, namely, that the best care and the greatest chances of cure lay within the asylums that had been so enduringly constructed. When the mental health services in the 21 pilot study areas are considered, it is important to realize that much of practice and even of policy is still coloured by, if not the practices of the nineteenth century, then certainly by the structures inherited from that time.

Organization and financing

The organization and financing of mental health services in the 21 pilot study areas mirrors a diversity that reflects both national differences and sometimes also regional differences within a country, inasmuch as the financing and provision of services within a pilot study area may differ from those obtaining in the country as a whole. In some of the countries, as in the United Kingdom, the central government has a statutory obligation to provide mental health services, whereas in others, e.g. Spain (El Ferrol, Madrid) and Finland (Tampere) such services have to be provided by the local or municipal authority. In the two pilot study areas in the United Kingdom (Aberdeen and Nottingham), as in the country generally, services are provided entirely free to all through the National Health Service which is financed by central government. Thus, in Nottingham, "within the health service, psychiatric services are run as a single unit, administered and medically organized on a district basis" (*2*). Similar comprehensive services, available to all, are funded from central sources in the pilot study areas of Belgrade, Iaşi, Oslo and Zagreb.

In none of the areas does an exclusively private system of care exist, but perhaps the greatest input from private services is in the Geneva pilot study area, where 44 psychiatrists practise privately, while substantial private components also exist in Athens and El Ferrol—both in countries where there is no national health service. Most common, however, is a combination of state-funded and private care. In some cases, private insurance is compulsory, as in Groningen, while in others, as in Dublin, private health insurance is not required by law, but for persons whose incomes exceed a certain limit and who are therefore financially responsible for their medical expenses, voluntary health insurance is almost universal because of the enormously high cost of medical care. In Brussels and Louvain, most of the health facilities are private services that are, however, financed by the government, the health insurance system covering almost the whole population. The Paris 13 pilot study area is an interesting example of a mental health care system that does not reflect the national situation: services are provided by the Mental Health Association of the 13th Arrondissement, which is a private association recognized as being of public utility. Since 1961, the services have been financed by annual grants, 60% being provided by social security organizations and 40% by public bodies, the state and the city of Paris. Most patients receive treatment free of charge whether or not they are covered by social security.

In many countries, such as the Netherlands, private care is underwritten by trade unions or professional organizations, to which sizeable proportions of the population belong. In one area at least (Tampere), a substantial contribution to the services is made by a voluntary organization—the Sopimusvuori Association—which works closely with the statutory services in providing day care facilities, sheltered workshops, rehabilitation homes, hostel accommodation and semi-private accommodation.

All in all, if the 21 pilot study areas are viewed as a whole, it would seem that institutional care is generally available to all who live in the pilot study areas. However, in certain cases, as in El Ferrol, because some patients live far away from the institution, their early admission to the hospital may be hindered or relatives deterred from visiting them once they have been admitted. To judge by the inventory of services and comments on them from the different areas, the same cannot be said of services outside the hospital. Many complain of a lack of outpatient services, day places, hostel accommodation and other facilities. The existence in a large number of pilot study areas of private facilities suggests that there exists or is believed to exist a superior kind of care for those who can afford to pay for it, but whether the reality matches the expectation is, of course, unclear and must remain so, since data from private sources for the patient census and cohort study were available from only one of the pilot study areas.

Hospitals and catchment areas

Except in a few cases where asylums were placed in the centre of large cities, eighteenth and nineteenth century thinking led to the siting of hospitals either at the periphery of urban areas or, more commonly, remote from them so that the healing properties of pastoral quiet could exert their curative influences to the highest degree. This is reflected in the general relationship between catchment areas and their inpatient services in the pilot study areas. To take an extreme example, a hospital, half of which serves the El Ferrol pilot study area, is situated at Santiago de Compostela and the services are thus based "on a mental hospital far away from a capital and therefore removed from most of the area it serves" (*3*). Some parts of this catchment area are 160 km from the hospital and, in addition, transport services between it and the pilot study area are poor. On the other hand, many pilot study areas are served at least in part by university clinics that are usually either in the centre of a catchment area or in the heart of the cities or towns close by. This is the case in Groningen, Louvain, Oslo and Trieste. Although in one case (Nottingham) the mental hospital lies close to the city it serves and in Belgrade is in the city centre, the traditional situation whereby mental hospitals were built outside the city, in some cases in a ring around it, is reflected by the inpatient care available to Paris 7 and Paris 13 at Vaucluse and Soisy, respectively.

The nineteenth century origins of some of the hospitals providing the bulk of the institutional care for some pilot study areas are evident in their size. Thus, in three cases (El Ferrol, Mannheim and Mistelbach), the catchment area is served by a hospital having approximately 1000 beds. On the other hand, in one pilot study area, Dublin, inpatient needs are met almost completely by a converted tuberculosis sanatorium, built in the late 1950s and made redundant in the early 1960s by the decline in incidence of pulmonary tuberculosis.

In only a few cases, e.g. Dublin and Nottingham, does a single inpatient facility correspond precisely to its catchment area, i.e. the catchment area is served exclusively by the hospital, which in turn is exclusive to that area. In other instances, more complicated relationships exist between hospital and catchment area. Either the catchment area is served by many different inpatient institutions, as in Athens, where at least a dozen separate hospitals receive patients from the pilot study area, or the inpatient institution provides services for the pilot study area as part of a wider catchment responsibility, as in Brussels, Madrid and Zagreb. In the most common situation, some services are provided by a general hospital, and often by university and teaching units within that general hospital, but the greater part of inpatient care is still provided by the local mental hospital. This situation exists in, for example, Oslo and Trieste. In the case of Mannheim, a specialized research and teaching institute providing inpatient care exists in the centre of the city, but longer term care is provided by a traditional hospital outside the city.

In some cases, such as Geneva, the situation is quite complex, psychiatric care being provided by several different sources in the pilot study area. Various state and private institutions combine psychiatric care with other services, such as education, counselling and general health care, particularly with child services. In some areas, there may be separate adult psychiatric services for cases of different degrees of severity. For example, at Oslo, the Vinderen psychiatric clinic deals with neurotic and milder psychotic cases from the catchment area, but the more serious and disabling illnesses are treated in the traditional mental hospital at Gaustad.

In some pilot study areas, such as those of the United Kingdom, special accommodation has been provided since the nineteenth century for the mentally retarded, who are considered, both legislatively and in practice, to be different from the mentally ill and are therefore treated in separate institutions. In other areas, some at least of the mentally retarded are treated in mental hospitals, often as long-stay patients.

The size of the institutions providing inpatient care to the various pilot study areas varies enormously. Some of the more traditional mental hospitals have up to 1500 beds, whereas some of the units in general hospitals may have as few as ten. In general, though, bed numbers have been falling and patient/population ratios have fallen correspondingly. Iaşi is an exception, however, the bed/population ratio having actually increased from 1.5 per 1000 population in 1960 to 2.4 per 1000 population, i.e. almost double, in the late 1970s. In general, admission rates have increased substantially in most centres, although not in Aberdeen and Trieste.

Decentralization and sectorization: Paris 13

The model of service provision in which psychiatric services are centred on the mental hospital and located almost exclusively within it, however remote the hospital from the population it served, remained dominant throughout the first half of the twentieth century. It is true that outpatient psychiatric clinics existed at general hospitals or at health centres or polyclinics within cities or towns, and that even day places and hostel accommodation were available long before the Second World War. However, such services were isolated and few in number. For the most part, psychiatric services remained based on, and entirely located within, the traditional mental hospital.

In the 1950s, with the introduction of a much more effective range of drug treatments for psychiatric illness, it soon became clear that the large mental hospital, without any links with the community in terms either of structure or of staff, was an unsuitable vehicle for the delivery of modern mental health care. At the same time, doctors practising within mental hospitals had become increasingly dissatisfied with the resulting isolation from the rest of their medical colleagues. As a consequence, new policies were developed for the delivery of mental health care. These stressed the need to reduce the size of mental hospitals, the provision of community facilities for the mentally ill, the primary prevention of mental disorders, the need for a closer relationship between the psychiatric services and the general medical services, an improvement in the status of psychiatry as an academic subject—as exemplified by undergraduate and postgraduate teaching—and a greater interest in research. The objectives of these policies were to be achieved through increased emphasis on community care and on the provision of inpatient facilities for psychiatric care in general hospitals. All of these aspirations are reflected in developments in the delivery of mental health care in the pilot study areas, one of which (Paris 13) will be taken as an example, because in many ways it is a paradigm of what was later to become "sector psychiatry" and its example has been extremely influential.

In the late 1950s, a number of prominent French-speaking psychiatrists, among them Dr Philippe Paumelle, enunciated the principles governing the effective delivery of mental health care, including the following.

(1) *Continuity of care.* This ensures that persons and families receive care at all stages and at all levels of illness and are dealt with throughout by the same team—something that is not possible in the traditional mental hospital. The most effective way of ensuring continuity of care is by assigning teams and their associated structures, such as hospitals and clinics, to populations of manageable size. The services should be population-based, freely available to all, and easily accessible. In many ways, therefore, these services, in their working principles, foreshadowed the Alma-Ata Declaration as it relates to primary health care.

(2) *Coordination of care.* Psychiatric illness attacks and disables a variety of different human functions and age groups, so that disabilities and impairments exist in many functional areas. A multidisciplinary team is therefore necessary for their treatment, each member of the team

being aware of the skills of the others and knowing when it is appropriate to call upon and utilize them. Because of this multidisciplinary character, coordination of mental health care is essential.

(3) *Integration of care.* In any community, those who first come into contact with psychiatric illness are not the specialists of the psychiatric team but rather persons in key positions of responsibility in the community, such as teachers, the police, public health nurses, community nurses, social workers and general practitioners. The specialist psychiatric team must therefore integrate its efforts with those of the nonspecialists, as well as taking the lead in educating and counselling nonspecialists.

To put these principles to the test, the Association de Santé Mentale et de Lutte contre l'Alcoolisme for the 13th Arrondissement established a pilot scheme under which it provides, free of charge, psychiatric care for children, adults and the elderly. In 1973, the Association was linked to the teaching and research activities of the Pitié-Salpêtrière University Hospital Centre. The basic aim of the service was to provide continuity of treatment and unified therapy through the grouping of services and the location of health personnel in the area. The Association consists of two centres, one for adult psychiatry (the Centre Philippe Paumelle) and the other (the Centre Alfred Binet) for children. These are situated in the same building, which is in the heart of the 13th Arrondissement at the Place d'Italie.

The various services are grouped around each centre, and it is in these that the work of the medicosocial team responsible for parts of the area is carried out. For maximum efficiency, the 13th Arrondissement has been divided into sectors, each of which has a population of approximately 23 000, and each mental health centre has eight medicosocial teams, each of which is responsible for a sector. Broadly speaking, each team has on average 250 patients under treatment. Despite the logical division of the pilot study area into eight roughly equal sectors, differences have developed in recent years in the corresponding caseloads, as a consequence of changes in factors such as the proportion of immigrants and the elderly—both groups with a disproportionately high demand for services.

The adult services are based on the Centre Philippe Paumelle and almost 70% of first inpatient contacts are made through the centre, the remaining patients being directly admitted to the psychiatric hospital at Soisy, on the outskirts of Paris, some 30 km from the 13th Arrondissement. Other services, including a centre for psychotherapy and psychoanalysis and a day and night hospital (which deals with crises and emergencies), are also available in the 13th Arrondissement. An increasing number of first contacts with the service are made through the polyclinic, and it is calculated that in 1980, 10% of first contacts were made with this service, with a corresponding decrease to approximately 50% of first contacts at the Centre Philippe Paumelle. As an example of the high staff/patient ratios in the service, it may be mentioned that the psychotherapy centre has some 20 psychotherapists.

The Policlinique Psychiatrique (for emergency cases and day and inpatient hospitalization) was opened in 1976 and is expected to deal with emergencies occurring outside the working hours of the Centre Philippe Paumelle and to fill a gap, since the hospital for the 13th Arrondissement is located outside the area and is not easily accessible. The Policlinique has 35 beds and 25 day places. The inpatients are mainly long-standing psychotics, some new patients and other short-term patients presenting as emergencies, who may be kept in for periods ranging from one night to six weeks. The 13th Arrondissement also has a 45-place day hospital and a therapeutic workshop with an adjoining day hospital with another 40 places. In addition, a third day hospital with 20 places deals mainly with psychiatric patients with brain damage. A 27-place hostel deals in the main with long-standing psychotics, usually from the psychiatric hospital at Soisy. There is also a social club where, *inter alia*, evening classes are held.

The parent psychiatric hospital is the Hôpital L'Eau Vive at Soisy, which has 204 beds. Its main commitment is to patients from the 13th Arrondissement. The hospital operates on the principle of mixed wards, i.e. of wards that are mixed not only in terms of sex, but also in terms of nursing staff and types of illness. A nearby community hostel, the Foyer de Soisy, provides 23 places, and there is also a family adoption service for adult patients, serving mainly those suffering from chronic psychosis. A total of 23 patients have been placed and looked after by this service. Three large general hospitals in the 13th Arrondissement (the Pitié-Salpêtrière, Cochin and Kremlin-Bicêtre) have psychiatric departments. They accept patients who come for treatment voluntarily, but are neither equipped nor prepared to deal with involuntary patients or patients requiring long-term care. The Association does not collaborate with these departments, although a friendly relationship exists with them.

A number of psychiatrists are in private practice in the area and use the Association's services as required. The Association has a better relationship with them than with the general practitioners in the 13th Arrondissement.

It is estimated that the Association has up to 1% of the population of the 13th Arrondissement in care at any one time. Another 1% of the population will be receiving psychiatric care from the services outside the Arrondissement, so that we can say that 2% of the population of the 13th Arrondissement is in psychiatric care at any one time. Similar figures have emerged from psychiatric case registers in several industrialized countries.

The Centre Alfred Binet was founded in 1961 and is a mental health centre for children and adolescents in the 13th Arrondissement. It is served, in the same way as the Centre Philippe Paumelle, by eight medicosocial teams and provides an extensive range of medical, social, psychological, occupational and educational facilities for children thought to need them. It includes a 40-place day hospital, a 36-place intensive care unit, a 10-place small children's unit and an evening club with 30 places. There is also a foster care service, which has placed 20 children with foster families.

It can therefore be seen that, based on the principles of a community-based service offering continuity of care and a coordinated multidisciplinary approach, services have been developed for small units or sectors, each with a population of approximately 23 000, and each having separate teams for adult and child psychiatry. This development had a marked influence on policy in mental health care, both in France and elsewhere, and provided the model for what is called the *psychiatrie de secteur*.

The basic principle underlying such sectorization is that population groups, and particularly urban populations, should be divided into units of manageable size, to which a given psychiatric team is then assigned. In many ways, there is nothing particularly unusual about this arrangement, since from the very beginning of the era of provision of psychiatric care—then almost exclusively institutional in character—the convention has been for care to be delivered at the local level. This meant that most asylums were built near the community they were intended to serve, although some were not. In addition, up to the middle of the nineteenth century, many of these communities were of manageable size. However, as populations and particularly urban populations increased in size, such communities became far too large, and, as a consequence, the mental health services became increasingly remote from them. It thus became apparent that a single centralized service, based on the mental hospital, was unsatisfactory and communities were subdivided into sectors of manageable size, to which specific teams were assigned. Such decentralization and sectorization is evident in the majority of the services provided in the pilot study areas. In terms of service organization, some pilot study areas themselves form individual sectors, some are part of a larger sector and some consist of a number of sectors. The actual population size of sectors varies from 49 000 in Groningen to 1 500 000 in Belgrade. The physical size of pilot study areas varies enormously, Tampere being 157 times larger than Oslo. Not surprisingly, Tampere is the most thinly populated (38 inhabitants per km^2) while Nottingham is the most densely populated area (3242 inhabitants per km^2).

It is also not surprising that centres in more densely populated areas have resorted to sectorization to a greater extent than those with a larger but more widely dispersed population. In Geneva there are three sectors, to which teams have been allocated in a rational manner, and this applies equally to child psychiatric services, which are particularly well developed in this pilot study area. Even when populations are concentrated—often in a central urban core surrounded by a more widely dispersed rural population—sectorization is possible as, for example, in the Aberdeen pilot study area, where the population of approximately 320 000, in part concentrated in the city but also in part scattered more thinly throughout the county of Aberdeenshire, has been divided into three distinct catchment areas.

Despite a general movement towards sectorization with the inpatient unit located at the centre of the catchment area, and therefore close to all sectors, as in Nottingham with its dense concentration of population and in Tampere even though the population is widely dispersed, there are still many exceptions. Neither in Athens, where patients from the catchment area are hospitalized in a large number of different hospitals, nor in Groningen where, despite its small population, the pilot study area sends patients to four mental hospitals (only one of which is located in the pilot study area itself) is there a direct one-to-one relationship between the inpatient facilities and the pilot study area.

Community-based mental health services: Trieste

The dominant policy in psychiatry since the middle of the twentieth century is the reverse of that of the nineteenth century and holds that, as far as possible, patients should be cared for in the community, since this avoids the risk of institutionalization and assists in earlier and more complete rehabilitation.

The history of the community mental health movement has been well documented elsewhere and will not be reviewed here. In recent years, the WHO Regional Office for Europe has constantly had this topic in mind. A working group met in 1972 to discuss the development of comprehensive mental health services in the community (*4*), while other subjects subsequently considered by working groups have included psychiatry and primary medical care (*5*), the future of mental hospitals (*6*), constraints in mental health services development (*7*), and changing patterns in mental health care (*8*).

The outcome of these discussions can best be summed up by quoting part of the conclusions of the report of the Working Group on Changing Patterns of Mental Health Care (*8*), according to which:

> The services should be community-based, i.e. they should provide facilities for a defined area population small enough to permit most patients to be treated within easy travelling distance of their homes. The services should be comprehensive, in the sense that they provide a range of facilities, differentiated to meet the needs of persons suffering from any form of mental illness or handicap to be found in the area population. Specialized forms of care which must be provided on a regional basis should be linked to the community-based services.
>
> The various agencies and services engaged in mental health care for each area population should be so effectively coordinated that each part of the system can contribute to the care of individual patients, according to need, and that patients or their families do not suffer any disadvantage as a result of being transferred from one part of the system to another. This point applies equally to care given by medical and social agencies and nonmedical residential care.
>
> Services of equal quality and standard should be available to all persons in the service population who stand in need of mental health care, irrespective of

> financial or other considerations. In quality and availability, care for the mentally ill and mentally handicapped should be of a standard not lower than that provided for the physically ill.

This working group noted that at the time (1978), mental health care in many parts of the WHO European Region was in a state of transition from traditional custodial care towards comprehensive community mental health care. The situation can be illustrated by taking as an example the pilot study area of Trieste, in which the change from custodial care to community care has progressed most rapidly and gone furthest.

Legislation on the mentally ill in Italy in the late 1970s has brought about dramatic changes in the operation of that country's mental health services. Among the principal provisions of the new laws was one that laid down that no person could be admitted to a mental hospital who had not been hospitalized in one previously and that no person, whether previously hospitalized or not, could be counselled to enter such a hospital. These legislative changes were the sequel to innovations that were already occurring in several local mental health administrations in Italy and themselves date back to dissatisfaction with the established institutions.

The pilot study area consists of the city of Trieste and the six surrounding municipalities in the province of Trieste, with a total population of over 300 000. In the late 1960s and early 1970s, the pilot study area had residential facilities only, providing for a total of just under 3000 persons. Of these, 1300 were patients in the Trieste mental hospital, a great majority of whom were detained involuntarily. They tended to be poor and to be suffering from chronic psychosis. There were no community psychiatric facilities for such patients, who were also generally without health insurance, so that there were no alternatives to institutional care. Needless to say, the greater proportion of those in mental hospitals were long-stay patients, while those covered by health insurance were sent to clinics or sanatoria.

In the early 1970s the Trieste administration, well aware of the situation and anxious to change it, appointed the late Professor Bassaglia as director of the mental hospital. It also approved the recruitment of further professionals—doctors, nurses, social workers, etc.—and patients then began to be discharged. Many of those not discharged had their status changed from that of involuntary to voluntary patients, a great improvement in conditions in the hospital followed, and the development of community services began. The first step in this direction was the division of the catchment area into five sectors of about 60 000 persons each and, in keeping with this sectorization, the hospital was also divided into five corresponding divisions, each with its own team. Patients were allocated to these teams according to their area of residence. Each division of the Trieste hospital now began to admit patients, both male and female, whereas previously there had been only two admission wards for the entire hospital, one for males and one for females. Some long-stay patients, either with chronic disabilities or hospitalized for largely social reasons, were "declassified", although they continued to reside on the premises. They were then legally no longer patients and were designated as "guests". Among other advantages, this allowed them to receive the social welfare allowances previously denied them.

While these changes were going on within the hospital, the move from hospital to community was given formal structure by the establishment of mental health centres. By 1977 five centres, one for each sector, had been opened and group homes were being provided for patients in increasing numbers. With the establishment of the centres all patients, whether new or otherwise, were dealt with by them, and admissions to the hospital divisions were discontinued. However, it was found that there were still some patients who, because of acute symptoms, needed hospitalization for short periods and, for these patients, an admission unit was provided that could be used by each of the five mental health teams. With the cooperation of the full-time staff at the unit, team members continue to care for those of their patients who are admitted to the unit. However, most of the day-to-day work with patients is carried out at the mental health centres. The old mental hospital in 1982 had about 200 residents, redesignated as "guests".

Other beds for psychiatric patients, many of them for alcoholics, are provided in the university hospital, but they tend to be few in number and are not the responsibility of the provincial mental health services. However, many psychiatric emergencies are seen at the casualty department of this general hospital. Those presenting in this way are examined and dealt with, according to the area in which they reside, by members of the appropriate sector team of the provincial service and not by the medical personnel of the hospital.

Thus, the pilot study area of Trieste has progressed further than any other area participating in this study in deinstitutionalizing and to some extent "depsychiatrizing" the formerly institutionalized and stigmatized psychiatric population. It has gone far to re-establish former inpatients of the mental hospital in the community and to prevent any further entry into this diminishing institution. The service, in addition to being community-based, is multidisciplinary and committed to continuity of care, and the efforts of the various team members appear to be highly integrated.

The question remains whether the provision of a service of this type is of greater benefit to the recipients and their families than the traditional custodial mental hospital care of the type that existed in Trieste before 1971. In 1978, at the request of the director of the Trieste hospital and mental health service, a WHO consultant visited the service to make "an assessment report on the organization of . . . services in the light of the recent change in mental health care policy and to write an appraisal". He felt that "in the absence of certain detailed information, it is not possible to make a full evaluation of the adequacy, effectiveness and efficiency of the service". However, he concluded that "the changes . . . are in line with major trends in European psychiatric practice" (9).

In summary, the services in the Trieste pilot study area are an example of the practical formalization of a definite policy, based on sociopolitical considerations, of deinstitutionalizing the mentally ill. Of all the pilot study areas covered by this study, Trieste provides the clearest example of both policy formulation and of the implementation of that policy in practice through programmes for discharging institutionalized patients, "declassifying" patients not immediately dischargeable, changing their status from involuntary to voluntary, and certain other changes within the hospital structure itself relating to the principle of sectorization. Outside the hospital, a programme of community alternatives to hospitalization on a sectoral basis has been resolutely pursued, aided by the setting up of a mental health centre in each of the five sectors, which can deal with most mental health problems on a community basis. For those problems requiring an overnight stay or a stay of several days, a unit has been provided on the old hospital site but physically and organizationally separate from it.

Regional mental health services: Aberdeen

Perhaps the most common model emerging from an examination of the inventory of services provided by the pilot study areas is that of a catchment or pilot study area served by a number of different inpatient units, which may or may not be responsible for a particular catchment area or sector. This overall arrangement gives rise to what might be called regional mental health service, and an example of this type of service organization is provided by the Aberdeen pilot study area.

This is a geographically clearly delimited area, based on the city of Aberdeen, with its highly diversified population as a result of the recent growth of the offshore oil industry, and the surrounding rural areas of the country, which are separated from the rest of Scotland by mountains to the west and south and by the sea on the north and east. The inpatient psychiatric needs of the region were formerly served essentially by three psychiatric hospitals, together with a small clinic providing specialist services to a selected population among whom neurotic problems predominated. Originally providing care to a broad catchment area, these services have now been sectorized, inpatient units providing a full range of services to defined population areas. The community component of the services has increased considerably, and the inpatient/population ratio, which was as high as four per 1000 population in the late 1960s, has since fallen considerably. In common with many other regional mental health services where the population is served by a number of different centres, there is a range of specialized services, covering child psychiatry, alcoholism and neurotic disorders requiring psychotherapy. This model of the regional mental health service is possibly the most common one found in the pilot study areas and is exemplified not only by Aberdeen but also, for example, by Nottingham and Tampere.

Combined public and private care

Although private psychiatric care is provided only to a minority of patients in the European Region, there are private care inputs in many of the pilot study areas. This leads to a mixture of care systems with varying degrees of communication and coordination between them.

The quantitative contribution of private care varies considerably and may or may not be known. In the Dublin pilot study area, for example, a psychiatric case register exists, to which the major private services cooperate by communicating data on patients treated by them and residing in the pilot study area. Approximately 10% of the patients in care, according to the definitions adopted for the purposes of the register, are looked after by the private services. In Mannheim, however, where there is some private input but where, because of data protection laws, there are restrictions on gathering information, no precise quantification of this input is possible. There is also some private input in El Ferrol, but most of all in the Athens pilot study area, where no fewer than 14 private hospitals, all situated outside the pilot study area, provide inpatient care to its residents. Collectively, these hospitals treat more patients from the pilot study area than the two public hospitals.

Thus, in certain pilot study areas, the private sector is quite considerable, but it is also heterogeneous. Some patients pay the entire costs of their treatment themselves, but the majority are probably covered by some private insurance scheme or even by a scheme associated with their occupation. Thus, some of the private patients in the Athens pilot study area are insured by the Merchant Seamen's Fund, and other similar occupational insurance schemes are in operation elsewhere.

General hospital psychiatric units

Since many national plans for the development of mental health services have increasingly stressed the pivotal role of the general hospital psychiatric unit in the delivery of mental health care, it is to be expected that in many of the pilot study areas, general hospitals will make some contribution to such care. Somewhat surprisingly, though, this is of minor importance. Indeed, there are some pilot study areas, e.g. Dublin, Iaşi, Mistelbach and Zagreb, where neither beds nor services are provided by a general hospital. On the other hand, a sizeable contribution by general hospital units is found in Brussels, Groningen, Louvain and Randers.

Coordination between general hospital units and the public mental hospitals varies greatly. In some cases, the general hospital is responsible for a particular catchment area or sector. In others it is not, and a kind of selection procedure operates whereby newer patients with acute illnesses are more likely to be dealt with in the general hospital units, while those with greater disabilities and impairments tend to be admitted to the mental hospitals.

Special units and units for special conditions

In a number of pilot study areas, patients with milder or more interesting conditions from the treatment and teaching point of view are seen in special units. This is the case in Aberdeen, Mannheim and Oslo. In addition, specialized units, e.g. for alcoholism, forensic psychiatry and child psychiatry, exist in many of the pilot study areas. In some instances, these units serve a much wider region than the pilot study area itself. They may even serve the country as a whole, as does the special neurosis unit in Oslo. In others, a specialized unit outside the study area shares its facilities, inpatient or otherwise, among the residents of that area and of other areas.

Services considered by some mental health administrations to be specialized are not so viewed by others and are provided by the sector team as part of the general services. In other areas, there is a high degree of specialization, e.g. psychotherapeutic facilities are available in Paris 13. In some areas, services that are supplied on a sectoral basis elsewhere are seen as a supra-sectoral or regional responsibility and are available only for selected cases. In others, such services may not be available at all, either in the sectors or regionally.

Some of the services in the pilot study areas provide teaching or are part of a university medical complex, as in Zagreb, where the psychiatric teaching hospital is not only part of the general health services (and has a wider regional responsibility as well) but is also an institute of the medical faculty.

Two examples of specialized services that appear to be fairly widely accepted and available are special services for children and for alcohol and drug abusers. At least two of the pilot study areas provide comprehensive separate services for children. These are coordinated, however, with the other services in the various sectors. In Groningen, the services of two sanatoria for alcohol and drug addicts are available to residents of the catchment area.

Neuropsychiatric facilities

The tradition of dealing with psychiatric and neurological problems together persists in a few of the pilot study areas. Thus, in Belgrade, "neurology is still not completely separated from psychiatry . . . neuropsychiatrists employed in communes practise both neurology and psychiatry . . . " *(10)*. However, new legislation in Yugoslavia provides for specialization in neurology, psychiatry and children's neuropsychiatry as separate fields, and these two specialties are already tending to become separated in inpatient settings. In Mannheim, psychiatric inpatient services exist in the neurological department of the university hospital and at the neurological department of the general hospital at Ludwigshafen.

Other specialties

Special provision is made in some centres for various psychiatric subspecialties. Surprisingly, perhaps, the inventory of services in many pilot study areas does not mention any separate provision for psychogeriatrics or the care of the elderly mentally infirm. It therefore remains unclear to what extent such patients are dealt with by the psychiatric services or whether care is provided to them by geriatric services. In Tampere, however, separate psychogeriatric care is provided in a general hospital, which has a 37-bed unit for this purpose. In Louvain, on the other hand, geriatric services are not included among the psychiatric services, and it is not clear which service provides treatment to elderly patients with organic brain damage. In the Madrid area, although the relationship between the inpatient psychiatric services and the catchment area is somewhat poorly defined, there are separate geriatric units in the inpatient psychiatric hospital. In Dublin, no person over 65 years of age is admitted to the sector hospital without previous screening. If this shows that the problem is essentially an organic one, the patient will be referred to a geriatrician.

Special forensic psychiatric services are available in some of the pilot study areas, e.g. Groningen and Mannheim. These are usually shared with other catchment areas. Special services for juvenile offenders are also available in one or two pilot study areas.

As a further example of the kind of specialization that is occasionally available, it is worth mentioning that no fewer than three hospitals for psychosomatic diseases are included in the Mannheim inventory of services.

Nursing homes

There is a long tradition in certain European countries of providing less intensive inpatient care for milder psychiatric cases whose acute symptoms have long since faded away and who merely need supervisory rather than nursing care. This system was most strongly developed in the Nordic countries. Although this practice has tended to die out, some care of this kind is still provided in the Tampere pilot study area and also in Randers. In this context, it is interesting to mention that the "boarding out" of psychiatric patients with families, as traditionally practised in Gheel in Belgium, is not mentioned as a service in any of the accounts from the 21 pilot study areas, except in Paris 13.

Outpatient clinics and other services

One of the earliest initiatives in providing an alternative to inpatient hospital treatment in the psychiatric field was the opening of outpatient clinics. In a limited number of cases, this facility became available as long ago as before the First World War, but it is only since the end of the Second World War that these clinics have become widespread. Their initial location tended to differ, depending on whether they were set up at mental or general hospitals, but what was common to virtually all of them was that they were hospital-based. More recently, and this is clearly reflected in the study areas, this service has tended to move from hospital to community. Thus, many contemporary outpatient clinics are free-standing, community-based and located conveniently close to patients' homes.

A further characteristic of this alternative form of care is that the range of services and the duration of patient contact have been extended far beyond a mere visit to a clinic. The word "polyclinic" also describes another characteristic of these clinics—that in many cases they are situated, and the clinical transaction takes place, in a building that also contains clinics in other medical specialties. In other cases, there is also an appreciable social input, as in the Mistelbach catchment area near Vienna where ambulatory care had previously been difficult to obtain for discharged inpatients. A psychosocial service has now been provided for patients discharged from the hospital at Klosterneuburg. This is provided by a full-time social worker and a part-time psychiatrist, who work from an office in Mistelbach but also make frequent home visits.

Services provided from an extra-hospital base in the community range from the simple, old-fashioned outpatient clinic where (in a building not shared by other medical specialties) patients simply make routine visits to the psychiatrist and then return home, and where no other psychiatric professional is available to provide care to the highly developed mental health centre providing the full range of psychiatric services, including day care. This type of centre functions as the linchpin of the psychiatric service, sometimes to the extent of largely replacing the psychiatric hospital, as at Trieste. This is perhaps the most significant development in the provision of psychiatric care to have occurred in the last ten years and holds great promise for the future. In some of the pilot study areas, such a centre is already functioning. In the majority, it is either in the process of being established or at least its establishment in the near future is under consideration.

At their most fully developed, such centres can provide beds and admit patients during acute stages of illness for short periods before discharging them to community care or in some cases transferring them to residential care. In addition, as well as providing overnight crisis facilities, some centres can provide emergency domiciliary services (*11*).

A typical pilot study area

It is now worth trying to build up a composite picture of a contemporary European psychiatric service, as reflected in the inventories of services provided by the pilot study areas. It will be realized that this will not correspond precisely to any actual area, but may be useful from the point of view of those wishing to assess the extent to which the philosophy of mental health care delivery as set out earlier, and to which all the pilot study areas would more or less subscribe, has been put into practice.

A typical pilot study area would have a population of approximately 300 000, the greater part of which would be concentrated in an urban centre (usually a medium-sized city) with a smaller proportion in the surrounding rural areas. In the past, the population of the pilot study area, and particularly the urban part, would have been much smaller and would have received psychiatric services from a large central mental hospital of 1000–2000 beds, situated on the periphery of the city.

With the passage of time, the increase in the population increased the strain on the mental hospital. It became overcrowded, and the number of patients increased both absolutely and relatively, so that 20 years ago it contained four patients per 1000 population. As a result, over the last decade or so, admission policies have become more stringent, patients have been discharged earlier after shorter stays, and some alternative forms of inpatient psychiatric care have become available in a nearby general hospital. As a consequence, patient numbers have been declining, particularly over the last decade. Because of the unwieldy nature of the mental hospital inpatient services and the increasing size of the hospital staff, who now include not only psychiatrists but also social workers, occupational therapists and psychologists, the need to rationalize professional responsibilities towards patients has become a pressing issue. A modified form of sectorization has therefore been, or will shortly be, introduced under which the catchment area has begun to be divided into population subgroups. So far, this process has led to the total population of 300 000 being divided up among five sectors, each having 60 000 inhabitants and each served by a team. An attempt is also being made to divide the psychiatric hospital in a corresponding manner into sections, for which each sector team will have exclusive responsibility. However, this change so far affects only the newer patients. The older long-stay inpatient population remains crowded together under poorish conditions and not assigned to any sector or team.

Quite recently, a new general hospital has been built. It is a university hospital and has a number of specialized services, some of which have a regional responsibility. Among these services is a psychiatric unit with approximately 40 beds. It does not serve any particular catchment area and its staff, who include the professor of psychiatry at the nearby university, do not have any commitment to the mental hospital or its services. It tends to deal predominantly with acute patients and with a large number of complicated neurotic cases, for whom it provides a psychotherapeutic service. However, there is a rumour that the Ministry of Health and the regional health authority are contemplating giving it a sectoral responsibility in order to reduce the load on the parent mental hospital and also because there is a trend both towards requiring such general hospital units to provide care for a specific population sector and towards establishing community services.

Although the psychiatric hospital has been providing outpatient services for over 20 years, it is only comparatively recently that any appreciable community services have been made available. Quite recently, a day centre was opened that, for the moment, can provide only limited accommodation: it has only 30 places for the five sector teams. However, further day centres are planned for the catchment area. Some will be purpose-built, but others will require the renting and conversion of existing residential property. Eventually, it is hoped that each team will have its own day centre. For the present, an increasing number of discharged patients are being brought every day, either by public or by hospital transport, to a day centre in the hospital grounds. As the number of patients thought suitable for such care is constantly increasing, this is not a satisfactory arrangement. There are difficulties in providing such a large number of patients with a mid-day meal and, in addition, the occupational and rehabilitation services of the hospital cannot really deal with such a mass of patients, now estimated to be 200, on the already large mental hospital site. For the future, therefore, the plan is to develop community-based day centres, so that the need for day patients to come to a hospital that is already too large can progressively be eliminated.

Five years ago, the accommodation for doctors in the hospital grounds became redundant as doctors no longer reside on the premises. It was therefore converted into a hostel for patients who are being rehabilitated or who, in some cases, have been discharged from the hospital and obtained jobs but have not been able to find accommodation for themselves. This hostel, with its 12 places, has now proved quite inadequate for the numbers requiring its services, and two houses in the city centre part of the catchment area have therefore been obtained, one by purchase and one by renting from the local authority, for discharged patients. When money becomes available, more such properties are to be acquired, and it is hoped that the hostel accommodation within the hospital grounds will become redundant.

The recruitment of professional staff has, overall, not been a problem, partly because the hospital is located in a relatively large city and partly because of the adjoining university psychiatric teaching unit, in conjunction with which a programme for training medical students and young doctors contemplating a career in psychiatry has been started. For similar reasons, other professionals have been reasonably readily available. However, there is a tendency for people to prefer to work in the university teaching hospital and for consultants to compete for the very limited number of posts available there in preference to those in the mental hospital. The development of community services has nevertheless encouraged professionals with initiative, drive and imagination to work in the sector psychiatric services. More nurses, particularly those with ambition, are competing for the nursing jobs based on the health centres, day centres and hostels. They also undertake a good deal of domiciliary psychiatric visiting.

For some time now, the sector teams have been trying to integrate their activities with those of the primary health care services. This has not proved to be an easy task, but the team members have found that they have been most successful when their outpatient clinics have been based on health centres that are operated jointly by general practitioners, community physicians and community nurses. Professionals working in these clinics find that they are able to develop "outreach" services and to think in terms of prevention.

Overall, the development of this typical community-based, sectorized psychiatric service from a traditional isolated mental hospital has not been an easy task. One particular difficulty was that of ensuring that the regional and local health authorities achieve the correct balance between the different health priorities, so that the chronic problems, such as mental illness, mental handicap and geriatrics, receive a fair share of the available resources, equally with the high-technology acute medical services that the university hospital is vociferous in demanding.

Although services for the mentally retarded in the area are expanding, particularly for children, there is still a lack of inpatient accommodation for the chronic elderly mentally retarded, and such patients remain in the psychiatric hospital as a legacy of the old days. As far as possible, the five teams will not admit new cases of adult mental retardation to their inpatient beds other than on a short-term accommodation basis. By the same token, the geriatricians working in the catchment area—and there are only two of them—are based on the university teaching hospital. They perceive their role as that of acute medical clinicians dealing with the elderly, but have so far been unwilling to involve themselves in the wider aspects of geriatric care, such as the planning of services for the elderly sick. The psychiatric hospital, which formerly accepted new brain-damaged elderly patients unquestioningly, is now being much more restrictive in respect of its responsibility in this field. It is insisting on joint consultation with geriatricians, and the consultant in one of the sector teams has made it clear that he feels that all brain-damaged elderly patients should be dealt with by expanded geriatric services. As a consequence, he has virtually refused to allocate any of his psychiatric beds to such patients.

The treatment of patients with alcohol problems, of whom there are a very large number, is not handled in the same way by the five teams. Some of them provide specialized inpatient care in small "alcoholic units", using some of their hospital beds for this purpose. Others do not believe in this approach and do not intend to provide specialized facilities for these patients. All agree that people with drug problems should not be admitted to the hospital. Similarly, forensic problems are dealt with on a regional basis, while child psychiatric problems are covered by a small inpatient unit of six beds together with a large outpatient service at the university general hospital.

All the sector teams feel that a very small number of their patients will require special or intensive care for short periods because they are extremely disturbed and therefore dangerous, either to themselves or to others. There is a joint high-security locked unit for such patients within the mental hospital. This never contains more than 15 patients at any one time.

Since, depending on the surveys quoted, up to 40% of persons attending general practitioners are said to have a psychological component to their illness, it is legitimate to enquire what contribution the primary health care services make, in Europe, to caring for psychiatric illness. There is no set pattern in the pilot study areas; much depends on organizational and administrative arrangements. Thus, in some pilot study areas, general practitioners would appear to work single-handed, in others in group medical practices and, in a few instances, in a multidisciplinary health centre providing assessment and diagnostic facilities. In those cases where general practitioners are working in virtual isolation from the psychiatric services, early referral to specialist consultation is hampered. In such circumstances, patients are referred for psychiatric help less frequently and later in their illnesses than where a health centre arrangement exists.

In many cases, there are administrative difficulties about the integration of primary health care and specialist services. Sometimes, there appears to be competition between these two components of the health system for patients. This demarcation dispute is most evident in the issue of whether a discharged patient should be followed up by the specialist psychiatric services or the community-based health care elements.

One pilot study area, at least, has attempted to examine the extent of general practitioner involvement in aftercare. A cohort of 130 patients discharged from the psychiatric hospital of Klosterneuburg to the pilot study area of Mistelbach was followed up two years after discharge. Of these 130, 14 (10.8%) were found to have made no general practitioner contact since discharge. Fifty-six (43.1%) were found to have made less than one general practitioner contact per month, with the remaining 60 (46.2%) having contacted the general practitioner more than once per month since discharge.

Comments and conclusions

It will be obvious that this account of the wide diversity of psychiatric services provided in Europe is written at third hand. The only way to get to know how a psychiatric service functions is to work in it for a period of time. Written descriptions, even visits, will not convey the nuances and subtleties of administration, organization and function that give each service its unique character. Similar structures can operate quite differently in different social and cultural settings, and such differences cannot adequately be reflected in written accounts.

Given these limitations as well as the obvious fact that there can be no blueprint for a psychiatric service that is universally applicable, and recognizing that patterns of care that are accepted internationally must be adapted to local circumstances, it is surprising that the 21 pilot study areas all subscribe to many common basic policy and operational principles. All the pilot study area services are now either sectorized or are moving towards sectorization so as to ensure continuity of care. Most services make use of multidisciplinary teams and all services are becoming increasingly community-based through the reduction in the number of hospitalized patients and the provision of alternative community-based services, such as day centres, hostels and mental health centres.

Even though some services explicitly, and most services implicitly, declare their policy objective to be the integration of psychiatric services with those at the primary health care level, such as general practitioner services, the evidence from the inventory of services and the description of the way that these services operate all suggest that such integration has yet to be achieved. Although the trend towards caring for psychiatric patients in general hospitals rather than in mental hospitals is reflected by the availability of such facilities in the majority of the pilot study areas, both the inventory of services and the patient census indicate that somewhat less than 5% of all hospitalized patients in the pilot study area services are in general, as distinct from psychiatric, hospitals.

Finally, the need to supply a detailed description of the services provided in the 21 pilot study areas must undoubtedly have caused many team members in those areas objectively to assess the function as well as the structure of their own services, and at the same time helped to make them aware of developments elsewhere which, either directly or appropriately modified to suit local conditions, could improve the quality of the care that they offer to their patients.

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5

Patterns of care and service utilization

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When we observe processes in living beings, we notice that the objects we are observing are continually changing, and often in ways difficult to foresee. Much of the information that we attempt to acquire is therefore intended to allow us to describe the evolution of a system after it has been observed at a given time.

When we describe man-made objects, their uses and limits are generally obvious from their constructions, but the situation is different when we describe natural objects, since their limits are not necessarily clearly defined: the sea and the mouth of a river form a continuous whole, yet at times boundaries have to be fixed and are then necessarily arbitrary in character. In addition, certain natural objects are not directly observable. Thus, we think of anxiety and depression as "feelings" that are different from one another, just as we consider "feelings" to be of a different nature from "ideas". In practice, i.e. clinically, we may ask ourselves whether there is a sharply defined boundary between anxiety and depression, how this can be visualized, and where it is located, depending on the problems that we are trying to solve. We shall then have to reach agreement on the definitions of the terms we use. In other words, before we observe anything, we must define what it is that we are observing, and we cannot escape some degree of arbitrariness in so doing.

When we attempt to observe living beings, we are faced with the problem that they are constantly changing, so that if our observations are continued over a certain period of time, what we are observing is no longer the same as it was at the beginning. Our observations should therefore be made at intervals over very short periods of time to avoid any risk of bias being introduced by the changes taking place during the period of observation itself. On the other hand, of course, we may have chosen to make precisely these changes the subject of our observations.

It is possible to study an anxiety state, for example, by observing how the subject behaves in his normal environment. Alternatively, an observer may understand certain characteristics because of the experiences he has had himself in similar situations. Finally, it is possible to investigate the physiological and biochemical background to a given condition. The data yielded by any one of these approaches could not be obtained by means of the others but, in general, it is not possible to adopt more than one approach simultaneously in studying the same object: to choose one is, at the same time, to accept the loss of the information that might have been obtained by using the others.[a]

Finally, the method of observation which is used affects what is observed, e.g. fixing and staining a cell destroys it; the information that we obtain is affected by the measuring instruments we have used and by their effects. When what we are observing is another human being, his consciousness of being observed may modify the results obtained. It must also be remembered that self-regulatory processes may exist, such that what we are observing is affected by the observation and thus by the observer. Furthermore, at least for certain kinds of observation, we should ask ourselves where the line is to be drawn between subject and object (*2*). Thus, what we observe in the mental health field:

—does not have precise natural boundaries;
—is constantly changing;
—may be described at any given time in terms of a number of different reference systems;
—is often affected by the mere fact of being observed.

Having established the general characteristics of the objects that we wish to observe, we shall concentrate in what follows on observing them over time. When we wish to observe how an object changes with time, we must devise methods that will enable us, on the one hand, to do so without destroying or appreciably altering it and, on the other, to make observations over a period. An observable phenomenon may be:

—static, i.e. unrelated to time;
—dynamic, i.e. time-related, or more precisely a "discrete" process, in which time is measurable as a series of whole numbers;
—both dynamic and a "continuous" process, time being measurable on a continuous scale (*3*).

Examples of these three types of phenomenon are:
—the average stature of a group of adult patients (static phenomenon);
—the number of daily admissions, over a period of one year, to the outpatient department (dynamic phenomenon and discrete process, since successive days may be indicated by the numbers 1, 2, 3, etc., starting from some particular day);
—the times at which ambulances arrive at the casualty department during any given day (dynamic phenomenon and continuous process, since the times at which they arrive may be expressed by

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[a] According to Susser (*1*), knowledge can be acquired and theories developed in medicine by means of three main approaches: the study of individual cases, population studies, and laboratory investigations.

any positive real number corresponding to the number of seconds that have elapsed since observations began).

Other examples are:

—the distance from the Eiffel Tower of a bird flying in the neighbourhood, at the exact time that a bird-watcher looks at this bird (nonrepeatable experiment, static phenomenon);

—the same distance, measured at intervals of a minute over a given period of time (discrete process);

—the same distance considered as a continuous function of time over a given period of time (continuous process).

In practice, the observation of a dynamic phenomenon always results in a discrete process since the hand of a watch, for example, always moves in discrete steps, however small; on the other hand, a theoretical model will be based on the concept of a continuous process.

Cohort studies are designed to make us see change as a continuous process by following as closely as possible the development of the individual. There are no constraints on the measurement of time, since a permanent record is produced. There are constraints, however, with regard to the field of observation selected and to the reference system preferred. We can see only what is before us, and we see only one of the aspects of what we are observing. The field of observation will depend on the question that we chose to ask and on our research project. Thus, the study of cohorts enables us to study both persons and groups or populations, but not at the same time. Similarly, the reference system(s) introduce other constraints because of their mutually exclusive requirements.

To take anxiety as an example, it can be studied as a continuous phenomenon by the repeated collection of data on its somatic–metabolic correlates (ECG, EEG, urinary and blood metabolites, etc.). It can also be studied in the therapeutic relationship, but it is doubtful whether both methods can be applied simultaneously.

Definition of cohort

According to Hogarth (*4*), "A cohort is a group of persons who experience a certain event in a specified period of time". Thus, cohort studies require a group of persons who share a particular event during a specified period of time and whose changes are permanently recorded over equivalent periods of time (E. Brooke, personal communication).

In the context of this study, the cohort was defined as all patients up to a total of 200, aged 15 years or more, consecutively attending any of the mental health services delivering care to the pilot study area, for the first time or after an interval free of contacts of at least six months. While each patient progressed through the mental health services, in our respective "registers" they appeared as a body (a cohort) of patients whose progress could be followed for a period of two years whenever they contacted a service, each such contact also being entered in the "register".

The above definition was that agreed upon by the area teams. However, as a consequence of the varying conditions prevailing in the pilot study areas, this definition could not always be adhered to as strictly as would have been desirable. For example, in some areas, not all services were involved in the selection of the patients and their follow-up, particularly not in respect of the private sector. In other areas, the age limit or the total number of patients in the cohort were different from those specified in the definition.

Characteristics of the cohort

The sociodemographic characteristics of the cohort are described in Chapter 3. In this chapter, we shall use only the age, sex and marital status of the patient at the time of entry into the cohort and the area to which he belongs. The only medical characteristic of the patients to be used is the diagnosis on entry into the cohort, which means that any diagnostic changes occurring during the follow-up period that might have constituted a new reason for contact with a service will be ignored. Progress through the mental health services will be described purely in terms of contacts, where these are defined as face-to-face contacts (including home visits) at an outpatient service, attendance at a day or night hospital or time spent in hospital. Not all teams adhered strictly to this definition of a contact, and some included consultations by telephone or medicosocial services. The analysis of this information is discussed below. The ways in which the method of collecting data (prospectively or retrospectively, with or without a case register) can affect the study have already been discussed in Chapter 2.

Time-related data must be treated differently from other data. In principle, all the data could be regarded as time-related: a patient's civil status, professional situation, diagnosis, etc., may all change with time. However, practical considerations gradually led us to associate the notion of time exclusively with the patient's contacts with outpatient clinics and hospital departments.[a]

The other data are presented in the form of tables (Tables C1–C5) and histograms (Fig. C1–C3): see area descriptions.

As far as the time-related data are concerned, a "contact" is considered to be any of the following events:[b]

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[a] The instructions drawn up by the Working Group which met at Tampere in 1979 still require "changes" in civil status, etc. to be recorded.

[b] These events may be encoded as follows, in accordance with the instructions of October 1981.

Event	E	S	e	s	j	n	A	B	C
Variable II	5	5	3–4	3–4	3	4	1	2	1
Item "extra"	1	2	1	2	0–1–2	0–1–2	0	0	0

—E: admission to hospital;
—e: admission to day or night hospital;
—S: discharge from hospital;
—s: discharge from day or night hospital;
—j: day, or part thereof, spent in day hospital;
—n: night spent in night hospital;
—A: outpatient visit;
—B: home visit;
—C: contact by telephone.

In addition, the following definition was adopted.

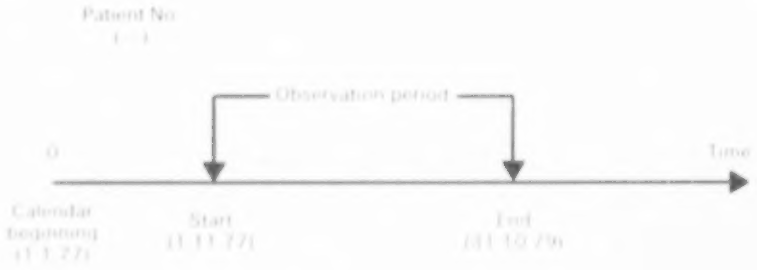
Definition 1: Observation period

This is the period of time during which the contacts with a given patient are being analysed. In the present study, this period begins with the entry of the patient into the cohort and in this sense will depend on the individual patient; on the other hand, its duration will be the same for all the patients in a given cohort and will be chosen in the light of the method of analysis to be used.

The observation period must be distinguished from the "collection of information period", whose duration varies in the different centres over the range from one to six years. In the majority, however, its duration is two years.

The observation period is shown diagrammatically in Fig. 1.

Fig. 1. Observation period



Analysis of the data

First method: elements of care

This method of analysis produces Table C8 in the area descriptions. The care of a patient is studied here as a time-dependent phenomenon and constitutes a "process". By noting each day whether or not there is a contact between the patient and the psychiatric institutions, a dated, chronological series of events is obtained that, for an individual patient, can be represented as in Fig. 2, using the code given above.

As soon as hypotheses are developed as to the dependence of what happens on a given date on other events occurring around that date, e.g. the phenomenon of self-regulation, it is possible to begin making a model of the process. However, the present study is purely descriptive and not related to any hypothesis. It merely makes it possible to say, after an examination of the care received, say, by two patients: "These two processes are similar", i.e. "The network of medical services has operated in a similar manner for these two patients".

In order to analyse a medical care process, certain terms must first be defined.

Definition 2: Stay in hospital

This is defined as a period of uninterrupted care, delimited by an admission (event E above) and a discharge (event S) and is represented in Fig. 3 so as to indicate the *continuous* care provided.

Definition 3a: Stay in day hospital

This is defined in two ways:

- —as a period of continuous care between two events e and s; it will then be considered that daily j events take place between those two events; or
- —as a sequence of j events occurring at very short intervals; more precisely, given a short, predetermined time period (about three days), the observable interval between two successive j events during

Fig. 2. Chronological series of events for an individual patient

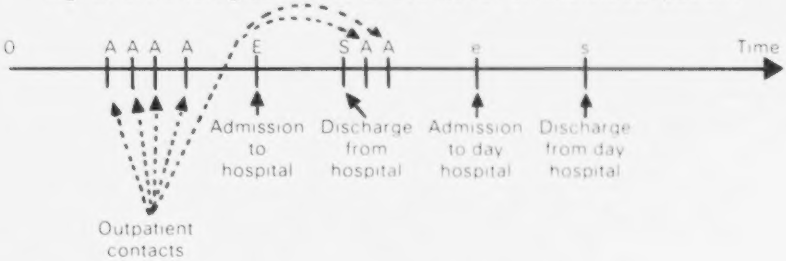
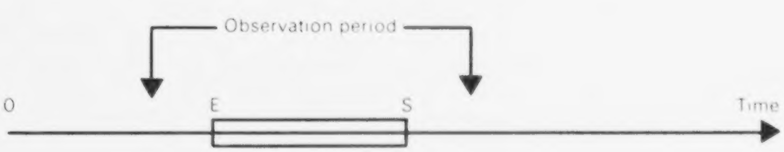

0
A A A A
E
S A A
e
s
Time
Admission to hospital
Discharge from hospital
Admission to day hospital
Discharge from day hospital
Outpatient contacts

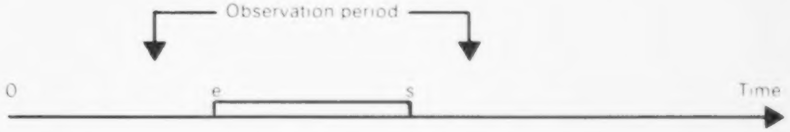
Fig. 3. A stay in hospital


Observation period
0
E
S
Time

one stay should not exceed that predetermined value; in addition, a minimum number of j events should take place in the sequence; the first event of this sequence will be called e and the last one s.

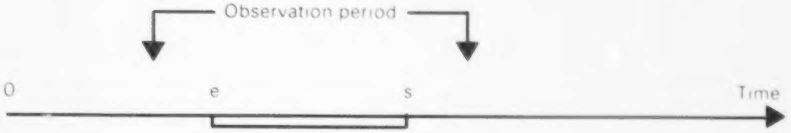
A stay in a day hospital is represented in Fig. 4.

Fig. 4. A stay in a day hospital



Definition 3b: Stay in night hospital
Such a stay is defined in the same way as in the previous definition, with j replaced by n, and is represented in Fig. 5.

Fig. 5. A stay in a night hospital



A further definition is now necessary.

Definition 4: Ambulatory sequence
This is defined as a series of events A, B or C, with which j or n events are associated when they are not part of a stay in a day or night hospital (definitions 3a and 3b). This sequence does not include a hospital stay (see definition 2), so that it is delimited by an E or S event or else by the beginning or end of an observation period (see definition 1).

If an A, B or C event is represented by a vertical line for a given patient, the diagram shown in Fig. 6 is obtained.

Thus, given a patient and an observation period, we have so far distinguished[a] between:

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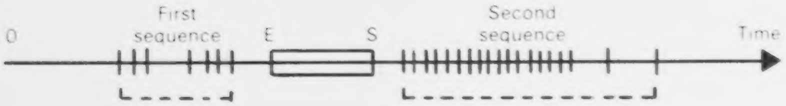
[a] This is naturally rather a rough distinction, particularly as far as day and night hospitals are concerned. Stays in such hospitals are not really continuous phenomena, since they consist of half-days, either consecutive or separated by very short periods of time. Such a simplification is necessary, however, for technical reasons.

Fig. 6. Ambulatory sequences



—the (genuinely or approximately) "continuous" part of the process: definitions 2, 3a and 3b;

—the "discrete" part of the process: definition 4.

On the basis of these definitions, we can proceed to a chronological dissection of the process, the period of observation being identical to that for the collection of data.

Hospital care is specified by one or more stays in hospital (definition 2), apart from the hospital service data, in order to avoid excessive complications. The only data necessary are dates of admission and discharge.

When the last contact of a patient with the hospital is an admission E during the observation period, we have a hospital stay that is not entirely included in that period; this is called a truncated stay.

Some hospital stays may include ambulatory events A, B or C, some of which may be real events (for instance, a visit by a doctor from the outpatient department to a hospitalized patient), while others are fictional (for instance, the stated date of discharge is an "administrative" one, subsequent to the real date). Such ambulatory events have been treated separately in the analysis, as if they formed a separate ambulatory sequence (definition 4) by themselves, so as to avoid complications.

Day or night hospital care is specified by one or more stays (definitions 3a and 3b). In order to simplify the investigation, the data for each patient can take one of two different forms:

—the dates of admission or discharge; or

—the dates of the days (or nights) spent in the day (or night) hospital.

In the second case, calculations based on definition 3a (or 3b) make it possible to delimit such stays and consequently to call certain events "admissions" and "discharges"; the situation is then the same as in the first case.

In contrast to the case of a stay in hospital, outpatient visits taking place during a stay in a day (or night) hospital have not been treated separately. A time period during which elements of an ambulatory sequence and a stay in a day or night hospital can co-exist is therefore possible (see Fig. 7).

Outpatient care is specified by the dates of A, B or C events, all considered to be of the same type.

On the basis of the prior itemization of stays in hospital (if the patient has been hospitalized), definition 4 makes it possible to isolate an ambulatory sequence in the process. However, the time intervals between two successive events in such a sequence are random and can be as much as one year or more.[a] Fig. 8 clearly shows the usefulness of such an itemization within an ambulatory sequence.

The temptation here is to say there are two "episodes" of outpatient care, based on an intuitive connection between the time intervals separating two events within one particular group and the time interval separating the events of the first group from those of the second.

The simplest way to itemize episodes is to select a predetermined interval, after which a new episode is considered to begin (see definition 5 below).

Definition 5: Outpatient episode

This is defined as a part of an ambulatory sequence consisting of elements close enough to each other; the parameter used for definition within an ambulatory sequence is the longest time interval separating

Fig. 7. Ambulatory sequence including a stay in a day or night hospital

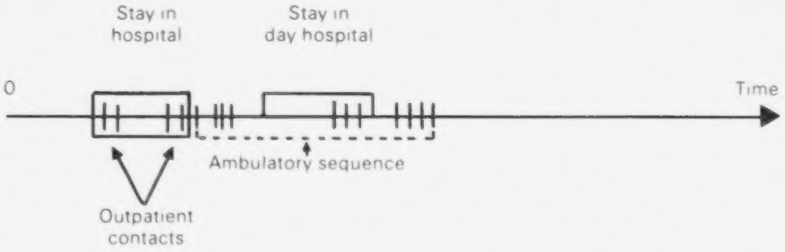
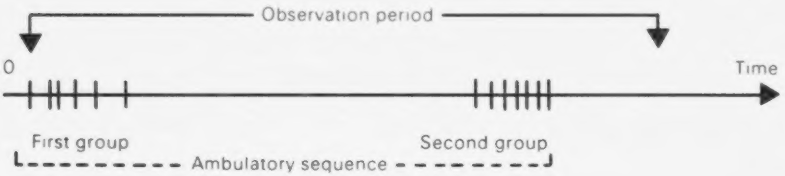


Fig. 8. Groups of events within an ambulatory sequence



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[a] It will be remembered that, for most pilot study areas, the observation period is about two years.

two consecutive events in one and the same episode (see Fig. 9). In this study, the maximum interval has been fixed at 90 days.[a]

For the purposes of the subsequent calculations, two types of episode will be distinguished:

—"short episodes", consisting of fewer than six events, an arbitrarily predetermined value;
—"long episodes", consisting of six or more events.

The foregoing analysis leads to a process chronologically divided into "episodes" and "stays", which we shall still call "elements of care". These can be measured in order to compare the processes corresponding to different patients:

(*a*) the *length* of the stay is measured;

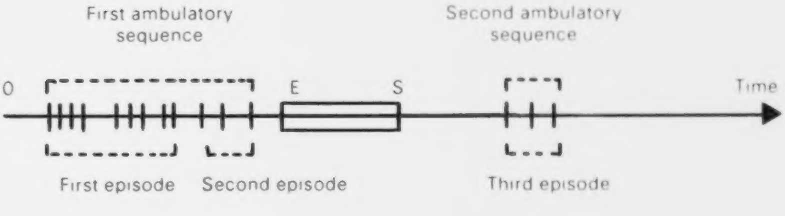
(*b*) for stays at a day or night hospital: the *number of days* (or nights) spent in hospital are counted on the assumption that, if the data on admission and discharge alone are available (see specification of hospital care), the patient has visited the hospital daily between those two events;

(*c*) for short episodes, it is sufficient merely to count the *number of events*;

(*d*) for long episodes, it is necessary to measure:
—the *number of events*;
—the *arithmetical mean of the time intervals* between two events;
—the *total duration* of the episode (number of days between the first and last events in the episode).

Since the aim is to characterize the internal structure of the episode, it will be seen that the variables measured above are insufficient. Two episodes of equal length and containing the same number of events can give the same arithmetical mean time interval but have very different structures. This is shown, for instance, in Fig. 10, where the total

Fig. 9. Outpatient episodes



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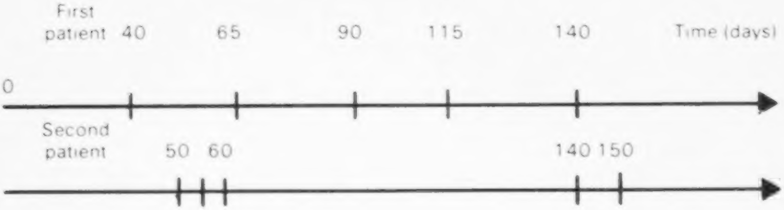
[a] The programme developed in Geneva for the purpose of itemizing episodes allows for other possibilities which are not, however, used in the study of the cohorts, namely the fixing of the minimum number of events constituting an episode and the possible discarding of the last event in an episode if it is too far removed in time from its predecessor.

Fig. 10. Structure of events within an episode



duration of both episodes is 100 days and the arithmetical mean time interval for both of them is 25 days, since both contain five events.

An episode must therefore be characterized by other variables, namely:

—the *maximum interval* separating two consecutive events;
—the *time concentration* of the events calculated by means of the index T (6), which provides an indication of the regularity of the events over time (see below);
—the *standard deviation* separating two consecutive events, which provides a scale of the dispersion of the events over time.

The concentration index T is calculated as follows. In a finite system of N points, which may or may not be separate, lying on a straight line, a segment containing these points is divided into N equal parts, each of which is then itself divided into a further N equal parts, so that the initial segment is thus divided into N^2 parts, etc. Thus, the segment is divided step by step into smaller and smaller parts, and at each division the number of points in the system contained in each part is observed. The index is the average number, calculated at each step (by means of adequate weighting factors), of parts containing "no point" belonging to the system, that may be found in a small segment divided at the foregoing step.[a]

"Concentration" should not be confused with dispersion, as demonstrated by the examples shown in Fig. 11.

The calculations also show that a strong correlation exists between the "dispersion" and the "total duration" of an episode, so that, in general, the first of these two variables can be eliminated.

For the various processes, therefore, time variables measured are as in Table 1.

These variables will be used to classify the elements of care, as follows.

(*a*) *Categorization of long episodes.* A cluster of long episodes in a cohort of patients will be grouped together into a few categories (four

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[a] CONC programme.

Fig. 11. Examples of concentration and dispersion of events

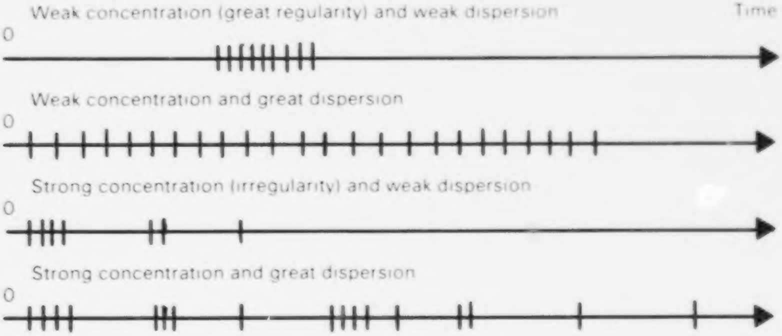

Weak concentration (great regularity) and weak dispersion
Time
0
Weak concentration and great dispersion
0
Strong concentration (irregularity) and weak dispersion
0
Strong concentration and great dispersion
0

Table 1. Time variables in relation to the elements of care

Time variables	Elements of care			
	Stay at hospital	Stay at day or night hospital	Short outpatient episode	Long outpatient episode
Number of events		X[a]	X	X
Average interval				X
Total duration	X			X
Maximum interval				X
Concentration				X
Standard deviation				X

[a] Event = a day or night spent in a day or night hospital. In this case, "number of events" is nearly the same as, or identical to, "total duration".

at most)[a] by means of cluster analysis (*4*), based on the time variables described above.[b]

(*b*) *Categorization of other elements of care*. Since it is not possible to use the foregoing method for the other elements of care (stays, etc.), it is necessary *empirically* to define:

—one or two types of short episode, e.g. those that can be reduced to a single event that does not constitute, properly speaking, an element of care, or else those that include several events (but fewer than six);

---

[a] This choice is connected with that of the number of final patterns of care (see (*c*) in text).

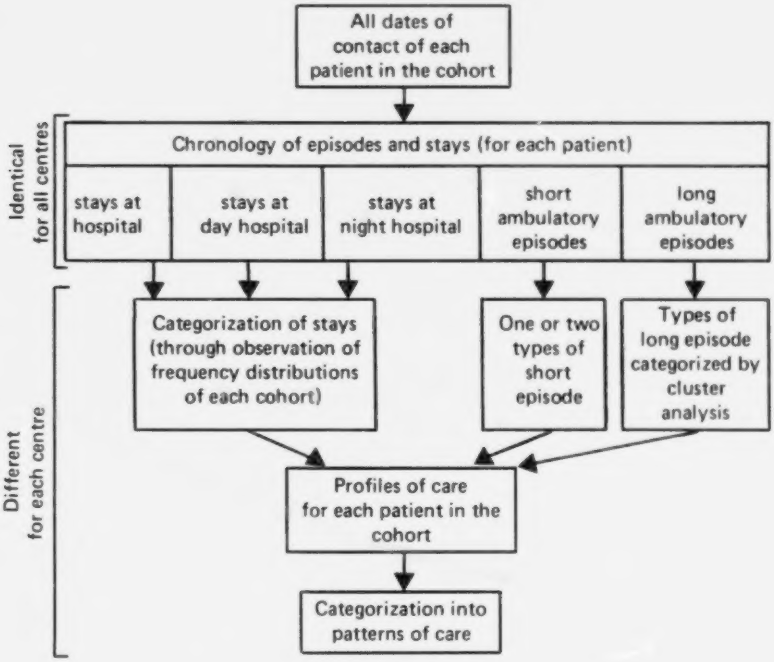
[b] CLUSTAN programme (cluster analysis).

—certain types of hospital stay defined on the basis of the histogram of duration of stay for the cohort;
—some types of stay in a day (or night) hospital, defined on the basis of the histogram of number of events.

(*c*) *Patterns of care*. As a consequence of the above, any process may be described by a "profile" given by:
—the chronological sequence of types of episode and stay;
—the number of days between the ending of each episode or stay and the beginning of the next one.

In order to determine the patterns of care on the basis of the cohort's "profiles" (one profile per patient), it is necessary to decide empirically which of them are alike. The simple cases (the most numerous) are evidently the processes that can be reduced to a single episode or a single stay (see (*a*) and (*b*) above). The procedure is shown diagrammatically in Fig. 12.

Fig. 12. Procedure for determining patterns of care


All dates of contact of each patient in the cohort
Identical for all centres
Chronology of episodes and stays (for each patient)
stays at hospital
stays at day hospital
stays at night hospital
short ambulatory episodes
long ambulatory episodes
Different for each centre
Categorization of stays (through observation of frequency distributions of each cohort)
One or two types of short episode
Types of long episode categorized by cluster analysis
Profiles of care for each patient in the cohort
Categorization into patterns of care

It is important to note that the method of analysis is the same for all cohorts, but the resulting pattern is specific to each one.

The consequences of the simplifications involved in this method are discussed in Appendix 1.

As an example of the use of this method of analysis, two patients from the Aberdeen area will be considered, as follows.

	Patient No. 1	*Patient No. 2*
Date of outpatient visit	15.2.78	4.3.78
Date of admission to hospital	16.2.78	4.3.78
Date of discharge from hospital	18.2.78	9.3.78

After discharge from hospital, outpatient visits took place on the following dates:

Patient No. 1
11.3.78
16.3.78
23.3.78
29.3.78
13.4.78
4.5.78
6.5.78
11.5.78
18.5.78
25.5.78
1.6.78
8.6.78
15.6.78
29.6.78
13.7.78
20.7.78
27.7.78
3.8.78
31.8.78
7.9.78

Patient No. 2
16.3.78
30.3.78
13.4.78
27.4.78
11.5.78
25.5.78
16.6.78
11.7.78
25.7.78
9.8.78
25.8.78
9.9.78
22. 9.78
24.10.78
18.11.78
2.12.78
21.12.78
30.12.78
21.12.79
10. 1.80
17. 1.80
5. 2.80
19. 2.80
27. 2.80

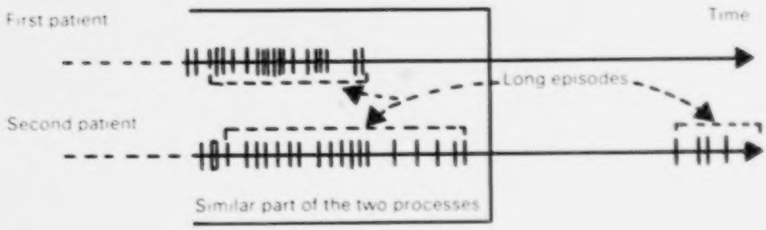
Since the observation period for the Aberdeen cohort began on 1 January 1977, we can obtain a set of data for each patient by counting the number of days between that original date and the date on which a particular kind of activity took place. These data are shown below, the appropriate symbol being given in parentheses (see also Fig. 13):

Patient No. 1
410 (A)
411 (E)
413 (S)
434 (A)
439 (A)
446 (A)
453 (A)
467 (A)
488 (A)
490 (A)
495 (A)
502 (A)
509 (A)
516 (A)
523 (A)
530 (A)
544 (A)
558 (A)
565 (A)
572 (A)
579 (A)
607 (A)
614 (A)

Patient No. 2
427 (A)
427 (E)
432 (S)
439 (A)
453 (A)
467 (A)
481 (A)
495 (A)
509 (A)
531 (A)
556 (A)
570 (A)
585 (A)
601 (A)
616 (A)
629 (A)
661 (A)
686 (A)
700 (A)
719 (A)
728 (A)
1084 (A)
1104 (A)
1111 (A)
1125 (A)
1139 (A)
1147 (A)

The above data constitute the element at the top of Fig. 12.

Fig. 13. Comparison of two patients from the Aberdeen pilot area



The chronological specification is, then, the following:

Patient No. 1
- Short episode: one event
- Duration of hospital stay: three days
- Long episode:
  - Number of events: 20
  - Average interval: 9.5 days
  - Total duration: 181 days
  - Maximum interval: 28 days
  - Concentration: 0.249

Patient No. 2
- Short episode: one event
- Duration of hospital stay: six days
- Long episode No. 1:
  - Number of events: 18
  - Average interval: 17 days
  - Total duration: 290 days
  - Maximum interval: 32 days
  - Concentration: 0.221
- Long episode No. 2:
  - Number of events: 6
  - Average interval: 12.6 days
  - Total duration: 64 days
  - Maximum interval: 20 days
  - Concentration: 0.324

The different types of stay at hospital for the Aberdeen cohort have been classified as follows:

Duration (days)	*Type*
1–8	H1
9–22	H2
23–99	H3
100–250	H4

The short episodes constitute a single type, designated el. The long episodes have been reduced by cluster analysis to three types, designated respectively, E1, E2 and E3.

The long episodes of both patients are all of type E2, for which the means are:

No of Events:	15
Average interval:	10.53 days
Total duration:	124.86 days
Maximum interval:	20.14 days
Concentration:	0.249

The maximum interval and the concentration are the *principal* variables in this group.

The "profiles" of the two patients are therefore:

Patient	*Profile*			
No. 1	el	H1	E2	
No. 2	el	H1	E2	E2

In addition, if the number of days between the last contact of an element of care and the first of the following element are counted, the following diagram is obtained:

Patient No. 1	el	1 day	H1	21 days	E2
Patient No. 2	el H1	7 days	E2	356 days	E2

This diagram leads to the conclusion that the patterns of care are the same within the limits imposed by the very limited number of patterns possible. It might be preferable not to take the last episode of patient No. 2 into account, since it is really a renewal of care one year after the termination of the preceding episode.

Second method: types of contact

This type of analysis yields Table C6 in the area descriptions. With the first method, the patterns of care obtained from the analysis are based on a given cohort and therefore apply to that cohort alone: two different cohorts produce two different patterns. It would be possible to obtain a single pattern applicable to a number of cohorts by combining them, but this will not be justified unless it is known that the populations of the different areas are comparable.

The method described here is different from the preceding one in that certain patterns are assumed *a priori* and are retained from one cohort to another; the disadvantage of rigidity is compensated by the advantage of being able to compare cohorts with one another. The patterns are defined, as before, on the basis of an observation period (definition 1). This period will begin with the entry of the patient into the cohort, as in the first method of analysis, but will always last only *one year*, so that, for a patient admitted on 1 April 1979, for example, it will end on

31 March 1980. The different patterns of care adopted are considered below.

Outpatients

These are patients having only A, B or C events during the observation period. The two time variables employed to determine the pattern are those already used in connection with the long ambulatory episodes in the first method, namely:

—the total duration of care, i.e. the number of days between the first and last events during the observation period;
—the average time between two events.

The following five patterns are then selected:

(1) one single contact during the observation period;

(2) total duration of care less than three months and average time interval between two events greater than two weeks;

(3) total duration less than three months and average time interval less than or equal to two weeks;

(4) total duration greater than or equal to three months and average time interval greater than two weeks;

(5) total duration greater than or equal to three months and average time interval less than or equal to two weeks.

Other patients

These patients attend hospital, day or night hospital, and possibly also outpatient services during the observation period, so that there are two further patterns:

(6) at least one admission to hospital, or to a day or night hospital, and at most one outpatient visit;

(7) at least one admission to hospital, or to a day or night hospital, and several outpatient visits.

The two patients from the Aberdeen area previously described obviously belong to pattern No. 7.

A further example is that of a patient from the El Ferrol area who had outpatient contacts only; those taking place during the year following his entry into the cohort were on the following dates:

13.6.79	3.7.79	12.10.79	22.12.79
16.6.79	14.8.79	1.11.79	3. 1.80
19.6.79	15.9.79	22.11.79	24. 1.80
			16. 3.80

The numbers of days elapsed since 1 January 1979 are therefore:

163	183	284	355
166	225	304	367
169	257	325	388
			439

This gives a total duration of 227 days and an average time interval of 277/12 = 23.08 days. This patient therefore belongs to pattern No. 4.

Third method: duration of care

This method yields Table C7 and Fig. C3 in the area descriptions. As in the second method, there are predetermined patterns applicable to all areas, but in this method the observation period lasts *two years* after the entry of a patient into a cohort. The patterns, however, are no longer defined in terms of patients' admissions into outpatient or hospital services, but rather on their disappearance from these services. In fact, no distinction will be made between the services; the care will be considered in its totality and the final event alone taken into consideration.

There are thus seven patterns of care, the patient disappearing from care 15, 30, 60, 90, 180, 365, 548 days after his entry into the cohort or, in other words, the final event takes place less than 15, 30, etc., days after the first event.

It should be noted that the different patterns are not mutually exclusive; care of pattern No. 1 belongs *a fortiori* to pattern No. 2, No. 2 belongs to No. 3, etc. To produce exclusive patterns would require each pattern definition to be supplemented by a condition which would exclude the preceding one, e.g. not discharged 30 days after admission but discharged 60 days after.

It will be seen that the only time variable used in this method of analysis is the *total duration of care*: pattern No. 1 is equivalent to a duration of less than 15 days, No. 2 to a duration of less than 30 days, etc. There is therefore a link with the second method of analysis, all outpatient care belonging to pattern No. 2 and pattern No. 3 of that method also belonging to pattern No. 4 of the third method, since the duration of care is less than three months or 90 days provided that patients do not return during the second year.

The first Aberdeen patient mentioned earlier joined the cohort on 15 February 1978, and his last contact took place 204 days later: his pattern of care therefore corresponds to pattern No. 6 and pattern No. 7 of the third method. The same applies to the patient from El Ferrol. In contrast, in the case of the second Aberdeen patient, no pattern can be assigned, since he had not disappeared from care 548 days after entry into the cohort.

Comparison of methods of analysis

The three methods used to study the care delivered can be summarized as follows:

—the first method covers *two years* of follow-up and gives eight patterns of care specific to each area: two patterns for outpatients, two for inpatients, two mixed types, one for chronic patients and the last for those not otherwise classified;

—the second method covers *one year* of follow-up and gives seven patterns comparable between areas, with five patterns for outpatients, one for (day patients and/or) inpatients, and one mixed;

—the third method covers *two years* of follow-up and gives seven patterns, but takes no account of the type of care received by the patient.

The first and second methods are similar in that both are concerned with the *time* at which care is provided (dates of contacts) and the *place* (hospital, day hospital, etc.). An important difference between them, however, is that in the first method, day and night care are included in the patterns concerning *outpatients*, while in the second, they are included in the patterns concerning *admission*.

The first method, because it analyses care "per pilot study area", is suitable for use in comparisons *within* a cohort, e.g. for comparisons of patients in Aberdeen with psychosis with those with neurosis. The second and third methods are more appropriate for use in comparisons *between* pilot study areas, since they are based on patterns of care fixed *a priori*.

Comparison of cohorts

The kinds of data collected and the use to be made of the mass of detailed information obtained have been discussed above. Three different methods of analysis of the care process, or rather of the process of the cohort through the services, were considered. However, more traditional figures, such as days in day care and inpatient care and the number of contacts, will be presented here. To compare the pilot study areas for the first and second years of the follow-up period, average numbers of days in day care, days in hospital, and outpatient contacts per patient (including home visits) were calculated on the basis of the total care received and were divided by the number of patients in the cohort or the group concerned.

Both the sociodemographic and diagnostic characteristics of the patients and the configurations of the services will now be examined. This will be done only for selected pilot study areas, because inclusion of all of them would render the tables unreadable; for the same reason, we shall restrict ourselves to certain diagnostic groups only.

The selected areas

The following five pilot study areas were not included in the comparison:

—Zagreb, because of the very small number of patients in the cohort;

—Dublin, because all the follow-up data, in particular concerning discharge dates, were not available at the time of analysis;

—Brussels and Paris 13, because the exact dates of outpatient contacts were not collected, which made it impossible to analyse the progress of their cohorts, as described previously;
—Paris 7, because the cohort contained only patients who entered it as inpatients, so that it is not in accordance with the definition given.

All the other 16 pilot study areas could be assigned to one of three configurations of services. Even though the danger of doing this was pointed out in Chapter 4, it was still felt that this could be done on the basis of the description of the services, as presented in the area descriptions. However, figures have to be read with utmost caution because they reflect only the services studied. For example, the pilot area of Mannheim is placed in Type 2. If private psychiatrists, who provide a great proportion of outpatient care, had been involved in the study this pilot area would have been classified more likely as an area of Type 3. Figures such as the average number of outpatient contacts, day places and beds per 100 patients seem to justify our choice of the three configurations (see Part II).

The three types are as follows:

—Type 1: areas with an emphasis on outpatient and day patient care: Belgrade, Trieste and the two Spanish areas, El Ferrol and Leganes;
—Type 2: areas with more emphasis on traditional intramural care: Leuven, Mannheim and Oslo;
—Type 3: areas with a wide range of services.

As can already be seen from the number of pilot study areas assigned to each type, most have moved away from traditional hospital-based care. However, a few, of which Trieste is the most radical example, have developed far towards a comprehensive integrated community-based model. Most of the 16 cohorts to be compared were collected from 1979 and 1980 onwards, except in Tampere, where it was started during 1975 and 1976 and was intended to include equal numbers of inpatients and outpatients. A second exception is the cohort of the pilot study area of Leuven, which was collected late in 1981, so that there has been only one year of follow-up.

In a number of pilot study areas, the rules for collecting the cohorts were not strictly adhered to, because certain services (mainly psychiatrists in private practice) did not participate in the study. This was the case in El Ferrol, Leganes, Leuven, Mannheim and Oslo and, to a somewhat lesser extent, in Athens. Not all adhered to the same age criterion of including all patients aged 15 years or more; Belgrade and Geneva excluded patients aged 0–18 years and Oslo those aged 0–20 years, while Athens included patients of all ages. A third difference concerned the types of patient included; the exceptional situation of the Tampere cohort has already been mentioned, while El Ferrol excluded patients who attended only once during the two-year follow-up period, and Belgrade included only those who had *never* before had any contact with a psychiatric service (for more details, see Part II).

Comparison of the cohorts is obviously hazardous because of differences in the ways in which they were collected, but to render the cohorts more comparable, we decided to analyse the data for certain diagnostic categories only, expecting that this would enhance the similarity of the groups in the different areas. In Appendix 2, we report an exercise in which ten brief diagnostic statements were coded in accordance with the Ninth Revision of the International Classification of Diseases (ICD). In general, there was reasonable, but by no means complete, agreement. The results of this exercise emphasize the caution required in comparing diagnostic groups.

The various diagnostic groups will be presented below according to the second method of analysis discussed above. Features of the caseload, such as number of contacts and days in care, have been included. The first and third methods of analysis of care events—the "episodes of care" and the "duration of care"—are presented later.

Findings: psychoneurosis or personality disorders

Type 1 areas

This diagnostic group did not differ with regard to the proportions of males and females, the latter making up approximately 70% of the total. Trieste had more patients aged 45 years or more, while the Leganes group was somewhat younger, and Trieste had slightly more single people in its group. In all four areas, almost all patients (94–100%) with a psychoneurosis or personality disorder began as outpatients. Table 2 shows the patterns of care during the first year of follow-up.

Except in Trieste, day or inpatient care for this category of mental disorder was quite rare, as was frequent outpatient care for fairly long periods of time. There is otherwise no consistency in the patterns of outpatient care.

Table 2. Pilot study area Type 1: psychoneurosis or personality disorders
Types of contact during the first year, as percentages of N in each pilot study area

Pilot study area	Type of contact[a]							N (100%)
	1	2	3	4	5	6	7	
Trieste	16	8	24	16	2	10	24	50
Belgrade	30	7	26	27	5		4	138
El Ferrol	4	14	18	60		2	3	111
Leganes	1	12	44	41	2			143

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 3 shows the average number of outpatient contacts per week per 100 patients and the average number of days in hospital or in day care per week per 100 patients. While the areas were quite similar with regard to outpatient care, it is apparently possible either to do entirely without the other types of care or to make fairly extensive use of day or inpatient care for this type of patient. The care provided was considerably less during the second year.

Type 2 areas

The three areas involved did not differ greatly with regard to age and sex. The marital status of the groups was not known. Fewer patients than in the type 1 areas (81–91 %) began as outpatients. Table 4 shows the patterns of care, which are markedly different from those in the type 1 areas in that single outpatient contacts and day and inpatient care were more common, particularly in Mannheim. This large number of

Table 3. Pilot study area Type 1: psychoneurosis or personality disorders
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Trieste	5.9	4.7	6.2	3.3	1.3	0.6	50
Belgrade	4.6	0.7	0.9	0.6			138
El Ferrol	5.2		3.3	1.0		3.2	111
Leganes	4.1			0.6		1.8	143

Table 4. Pilot study area Type 2: psychoneurosis or personality disorders
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a]							N (100%)
	1	2	3	4	5	6	7	
Oslo	23	3	43	7	1	12	11	94
Leuven	26	11	32	7	5	14	5	57
Mannheim	51	4	12	7	1	13	12	100

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

patients with one outpatient contact only in Mannheim is a result of the services included in the study. Further contacts with outpatient services not participating in the study (private psychiatrist) were not registered. Some of the Mannheim patients with one contact only were referred to the services for diagnostic classification only and referred back after one contact to their family doctors or private psychiatrist for treatment. A third explanation for the large number of single outpatient contacts in Mannheim could be the many patients contacting the emergency service and the psychiatric consultation service who were helped by one single crisis intervention contact only.

Table 5 shows the quantity of care per 100 patients per week and brings out the considerable differences between the Type 2 areas. In Leuven, patients received more outpatient care. As in the case of the Type 1 area, the amount of care provided was greatly reduced during the second year.

Table 5. Pilot study area Type 2: psychoneurosis or personality disorders
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Oslo	2.7	1.1	13.5	0.1		3.5	94
Leuven	8.9	2.3	9.3	No data	No data	No data	57
Mannheim	2.3	3.7	11.9	0.3	3.2	1.2	100

Type 3 areas

On the whole, the proportions of male and female patients with a psychoneurosis or personality disorder were similar to those in the Type 1 and Type 2 areas, except for Iaşi (81% females) and Geneva (47% males and 53% females). With regard to age, the groups differed somewhat except for Athens, where the number of patients aged 45 years or more was appreciably greater, and Iaşi, which had the largest number of patients aged 25–44 years. Aberdeen, Geneva and Groningen were above average in numbers of single people. From 13% to 87% of the groups began in outpatient care. This wide variation is partly the result of selection procedures in certain areas, in which equal numbers of inpatients and outpatients were collected.

Table 6 shows a much greater emphasis on single contacts (except in Groningen and Tampere) and on inpatient or day care, which seems to replace the more intensive long-term pattern of outpatient care (pattern No. 5). Groningen was an exception in this respect.

Table 6. Pilot study area Type 3: psychoneurosis or personality disorders
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact*							N (100%)
	1	2	3	4	5	6	7	
Randers	26	11	14	21	1	9	19	117
Iaşi	1	1				25	73	137
Geneva	23	2	17	12		24	15	428
Mistelbach	26	14	17	42		1		84
Athens	39	6	4	48		3		224
Nottingham	21	6	13	28	1	11	20	90
Aberdeen	37	5	11	20	7	8	12	122
Groningen	9	8	4	41	14	8	18	79
Tampere	7	10	22	23	1	13	24	87

* Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

When the findings shown in Table 6 are considered together with those given in Table 7, it becomes clear that patterns of care No. 6 and 7 include mainly brief spells of day care and that the emphasis was more on inpatient care. It is a curious phenomenon that in these areas so many patients with a psychoneurosis or personality disorder had one outpatient contact only while, on the other hand, the contribution of inpatient services during the second year of follow-up remained quite considerable. In this respect, Type 3 areas were quite different from Types

Table 7. Pilot study area type 3: psychoneurosis or personality disorders
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Randers	4.1	7.9	6.7	0.5	2.8	1.7	117
Geneva	5.2	3.6	14.1	2.1	1.0	7.8	428
Mistelbach	4.3		0.1	2.0			84
Athens	3.0		0.4	1.4		0.2	224
Nottingham	3.9	1.3	13.8	0.7		4.1	90
Aberdeen	4.6		4.5	1.0	0.3	2.5	122
Groningen	5.0		30.5	0.3		20.0	79
Tampere	5.4	3.0	22.8	2.3	1.6	11.4	87

1 and 2. A broader range of services thus apparently results in more days in hospital in the milder types of mental disorder.

Findings: alcohol and drug dependence

Type 1 areas

Males predominated, and in El Ferrol and Trieste the majority of patients (approximately 70%) were under the age of 45 years. In contrast, in Belgrade this age group accounted for only 22%. From 25% to 53% were single people. The majority (84–100%) began as outpatients.

Even in areas of this type, inpatient care plays a significant role (see Table 8) in addition to day care. Outpatient care makes a major contribution only in El Ferrol. In Trieste, contact with all services continues into the second year of follow-up (see Table 9).

Table 8. Pilot study area Type 1: alcohol and drug dependence
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a]							N (100%)
	1	2	3	4	5	6	7	
Trieste	13		19	19	3		47	32
Belgrade	21		26	16	5		32	19
El Ferrol	3	11	17	58		3	8	36

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 9. Pilot study area type 1: alcohol and drug dependence
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Trieste	13.1	8.7	1.7	7.8	4.0	2.6	32
Belgrade	4.8	4.5	5.6	0.5			19
El Ferrol	5.3		4.6	1.4			36

Type 2 areas

Once again, males featured more prominently (60–89%). In Oslo, patients were somewhat older than in the other areas. More patients (17–47%) began as inpatients or day patients. In Oslo, the number of patients with single contacts or infrequent, short periods of outpatient care was very high, inpatient care otherwise making the greatest contribution.

Table 10 further illustrates the findings shown in Table 11. Except in Leuven, outpatient care is of little significance in comparison with inpatient care, which continues into the second year, particularly in Oslo. In Mannheim, patients seem to disappear from care.

Type 3 areas

As in Type 1 and Type 2 areas, males and single people were prominent, except in Iaşi and Mistelbach, where married dependent patients were much more common. Athens, Geneva and Groningen had larger

Table 10. Pilot study area Type 2: alcohol and drug dependence
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a] 1	2	3	4	5	6	7	N (100%)
Oslo	44	47		7			47	15
Leuven	14	5	20	18	7	27	9	44
Mannheim	13	47	3	3	8		28	36

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 11. Pilot study area Type 2: alcohol and drug dependence
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient: First year: Outpatient contacts	First year: Days in day care	First year: Days in hospital	Second year: Outpatient contacts	Second year: Days in day care	Second year: Days in hospital	N(100%)
Oslo	0.6	3.7	38.3	0.7		39.9	15
Leuven	4.9	2.9	24.2	No data	No data	No data	44
Mannheim	1.2		12.8	0.4		2.9	36

numbers of young dependent patients (less than 25 years of age). Except in Athens, Iaşi and Tampere, the majority of patients entered the cohorts via an outpatient service. The pattern of care (see Table 12) was predominantly one of single outpatient contacts (except in Athens and Groningen) or admissions. Areas such as Athens, Aberdeen, Geneva and Tampere relied heavily on inpatient care.

The Groningen area provided intensive and prolonged outpatient care rather more frequently. This is evident from Table 13, which also contains data on the continuation of inpatient care into the second year of follow-up.

Table 12. Pilot study area Type 3: alcohol and drug dependence
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a] 1	2	3	4	5	6	7	N (100%)
Randers	30	4	18	14		18	16	56
Iasi						69	31	13
Geneva	26	1	13	5		39	16	77
Mistelbach	20	10	7	10	7	33	13	30
Athens	8	8				50	33	12
Aberdeen	19	4	4	7	4	37	26	27
Groningen	3	3	21	24	10	3	34	29
Tampere					6	47	47	17

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 13. Pilot study area Type 3: alcohol and drug dependence
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient: First year: Outpatient contacts	First year: Days in day care	First year: Days in hospital	Second year: Outpatient contacts	Second year: Days in day care	Second year: Days in hospital	N (100%)
Randers	2.7	3.3	6.5	1.0	1.0	4.2	56
Geneva	2.0	2.8	8.5	0.4	2.0	6.7	77
Mistelbach	3.9		23.0	3.3		5.9	30
Athens	1.3		51.9	1.0		15.2	12
Aberdeen	3.0	3.0	18.9	0.6		9.6	27
Groningen	7.6		44.9	1.1		38.0	29
Tampere	4.5		31.0	3.2		13.7	17

All three types of area provide inpatient care, which extends into the second year of follow-up more often in the case of alcohol- or drug-dependent patients than of those with personality disorder or psychoneurosis.

Findings: organic psychosis

The El Ferrol and Leganes areas were excluded because they had only a small number of cases with organic psychosis. In Belgrade and Trieste, about two thirds of the patients in this group were females, the majority (58% and 86% respectively) were 65 years or more, and almost half (42% and 43% respectively) were widowed. Almost all entered the cohort as outpatients (84% and 100% respectively).

Table 14 shows the different pathways followed by these patients in the services. In Trieste, patients receive inpatient or day care, whereas in Belgrade they have one outpatient contact only or are treated largely as outpatients for a number of months.

Table 15 demonstrates that, in Trieste, mainly day care is involved

Table 14. Pilot study area Type 1: organic psychosis
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a] 1	2	3	4	5	6	7	N (100%)
Trieste	5	5	26	11		5	47	19
Belgrade	21	7	36	29			7	14

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 15. Pilot study area Type 1: organic psychosis
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient: First year: Outpatient contacts	First year: Days in day care	First year: Days in hospital	Second year: Outpatient contacts	Second year: Days in day care	Second year: Days in hospital	N (100%)
Trieste	12.5	23.1	6.2	5.2	4.4	1.3	19
Belgrade	4.4	7.1		0.9	2.6		14

and that care does continue to some extent into the second year of follow-up. This is much less often the case in Belgrade.

Type 2 areas

Because of the small numbers in this group at Leuven, this area will not be considered here. Both Mannheim and Oslo had more females and patients aged 65 years or more in their groups, the majority beginning as outpatients. Table 16 again shows the large numbers of patients with one outpatient contact only, the remaining patients being treated as inpatients.

This is particularly the case in Mannheim, and also applies during the second year of follow-up. The fate of such patients in Oslo is uncertain; they may have transferred to a service that did not participate in the study.

Type 3 areas

The groups in these areas varied greatly in age and sex distribution and in marital status. For example, in Geneva, there were no people aged

Table 16. Pilot study area Type 2: organic psychosis
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a]							N (100%)
	1	2	3	4	5	6	7	
Mannheim	42		3			48	6	33
Oslo	70					10	20	10

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 17. Pilot study area Type 2: organic psychosis
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Mannheim	0.8		53.9	0.1		22.1	33
Oslo	1.4		7.6				10

65 years or more, but in Groningen there were as many as 93%. This in itself suggests wide variations in the patterns of care (see Table 18). Intensive outpatient care was rare. In some areas (Aberdeen and Randers), the numbers of single contacts were striking. In most areas, inpatient care was an important feature, as confirmed by the findings presented in Table 19. Day care appears not to be important, and inpatient care continues well into the second year of follow-up.

There was, however, more uniformity in the patterns of care in the case of organic psychosis than for other diagnostic groups.

Table 18. Pilot study area Type 3: organic psychosis
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a]							N (100%)
	1	2	3	4	5	6	7	
Randers	40	5				55		20
Geneva	8			8		69	15	13
Mistelbach	4		4			71	21	24
Athens	9			17		39	34	23
Nottingham	16	5		5		74		19
Aberdeen	44		6	6		38	6	16
Groningen	27		13	33		7	20	15
Tampere				13		53	33	15

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 19. Pilot study area Type 3: organic psychosis
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N(100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Randers	0.9		58.9	0.1		40.3	20
Geneva	1.1	1.2	108.5	1.5	0.7	37.9	13
Mistelbach	1.0		38.5	0.6		4.6	24
Athens	2.9		112.3	1.5		93.1	23
Nottingham	1.0	3.8	62.4	0.1		50.7	19
Aberdeen	2.6	5.6	23.0	0.3	4.6	14.1	16
Groningen	3.1		71.7	0.7		87.0	15
Tampere	1.7		64.1	0.7		25.9	15

Findings: schizophrenia and paranoid states

Type 1 areas

Only El Ferrol and Trieste had enough cases in this group to be considered. The sexes were more equally distributed (62% and 50% of males in El Ferrol and Trieste respectively). More than half were under the age of 45 years, and the majority (46% and 62% respectively) were single. More than three quarters began as outpatients. The pattern of care included inpatient stay for most cases (see Table 20), but in El Ferrol there was also some outpatient care.

As shown in Table 21, however, admissions in Trieste were brief and alternated with outpatient care, while in El Ferrol admissions were for very much longer periods.

Type 2 areas

In Mannheim and Oslo, the groups included as many males as females, but in Leuven 71% were males. The majority in all three groups were

Table 20. Pilot study area Type 1: schizophrenia and paranoid states
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact*							N (100%)
	1	2	3	4	5	6	7	
Trieste	5			12	17	2	64	42
El Ferrol		8		31		8	54	13

* Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 21. Pilot study area Type 1: schizophrenia and paranoid states
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Trieste	30.0	14.8	7.7	17.4	9.7	3.9	42
El Ferrol	5.9		61.2	3.1		22.9	13

younger people, i.e. those under the age of 45 years. Except in Mannheim, most patients began in outpatient care. As was the case with organic psychosis, the expected number of patients had one outpatient contact only during the first year of follow-up (see Table 22).

From 50% to 60% of patients were admitted at least once. Table 23 shows considerable uniformity with regard to inpatient care during the first year of follow-up, and this continued into the second year, particularly in Oslo.

Type 3 areas

Because of the small numbers of cases in the groups, the Groningen, Iaşi, Nottingham and Randers areas were excluded from the comparison. The age and sex distribution of the various groups differed greatly, but the majority were single people. Except in Mistelbach and Tampere, most patients entered the cohort as outpatients. In these areas,

Table 22. Pilot study area Type 2: schizophrenia and paranoid states
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact*							N (100%)
	1	2	3	4	5	6	7	
Oslo	12		12	6		24	47	17
Leuven	14		21	7	7	36	14	14
Mannheim	26			11		30	33	27

* Types of contact
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 23. Pilot study area Type 2: schizophrenia and paranoid states
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Oslo	2.2	6.6	55.5	0.1		48.5	17
Leuven	5.6	28.4	53.4	No data	No data	No data	14
Mannheim	1.9		68.2	0.5	0.3	23.6	27

fewer patients had a single outpatient contact only during the first year of follow-up (see Table 24).

Except in Geneva, inpatient care was much more common than outpatient care alone. Table 25 shows the generally lengthy stays in hospital and very limited outpatient care. It is clear that, in addition, inpatient care also continues to be important during the second year of follow-up. Only in Tampere did day care contribute significantly to the pattern.

Episodes of care

In the previous sections, we compared the care delivered to subcohorts of patients from different areas in terms of rather crude measures, such as outpatient or inpatient care, frequent or infrequent care for periods of

Table 24. Pilot study area Type 3: schizophrenia and paranoid states
Types of contact during the first year, in percentages of N in each pilot study area

Pilot study area	Type of contact[a]							N (100%)
	1	2	3	4	5	6	7	
Geneva	15	2	9	17	2	23	32	92
Mistelbach				18		27	55	11
Athens	8		4	10		33	46	52
Aberdeen			8	8		46	38	13
Tampere			5	17	2	15	61	41

[a] Types of contact
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table 25. Pilot study area Type 3: schizophrenia and paranoid states
Average number per patient in the first and second year of outpatient contacts, days in day care and days in hospital

Pilot study area	Average number per patient						N (100%)
	First year			Second year			
	Outpatient contacts	Days in day care	Days in hospital	Outpatient contacts	Days in day care	Days in hospital	
Geneva	5.6	4.1	31.1	3.5	0.7	16.8	92
Mistelbach	4.6		104.6	4.6		56.9	11
Athens	5.1		56.2	4.7		33.1	52
Aberdeen	3.9		79.0	1.5		28.1	13
Tampere	6.0	9.6	90.6	3.9	17.3	58.8	41

less or more than three months, etc. These enable us to compare patterns of care without having to make any corrections for differences in the details of those patterns. For example, we considered outpatient care for a period of less than three months to be short, without any regard to the fact that in a particular area a period of less than one month might be considered short, while one of two to three months would be quite long.

The method of analysis based on "episodes of care" takes account of this aspect, because it produces categories of care in relation to the total pattern of care in one and the same area. This is more suitable for comparison of the care delivered to different subcohorts within the same area than for comparisons between areas, because "short" episodes of outpatient care may not have the same number or density of contacts in different areas. In Part II, the data for each area have been presented for purposes of comparison within that area. Here, we shall compare the episodes of care in different areas, notwithstanding the fact that the categories used are not strictly comparable. Six areas are presented in Tables 26–29; they were chosen as contrasting areas within Types 1, 2 and 3.

Table 26 shows a considerable degree of uniformity with regard to the care delivered to groups of patients with psychoneurosis or personality disorders. The majority of cases received short episodes of outpatient care, while inpatient admissions, and particularly chronic episodes of such care, were rare.

The same applies with regard to addictions (see Table 27), short outpatient episodes being the most common, but Type 2 and Type 3 areas were, in addition, fairly similar with regard to inpatient care, although some differences still remain.

Marked differences exist, however, in respect of organic psychosis, with increasing emphasis on inpatient care only in Type 2 and Type 3

Table 26. Psychoneurosis or personality disorders
Episodes of care, two-year follow-up, by type of pilot study area, in percentages of N in each pilot study area

Pilot study area	Type	N	Episode of care						
			Outpatient[a]		Inpatient[a]		Mixed care[a]		Chronic
			Short	Medium or long	Short	Medium or long	Short	Medium or long	
Trieste	1	50	56	26			8	2	2
El Ferrol	1	111	62	33	1	2		1	1
Oslo	2	94	68	10	6	5	2	6	2
Mannheim	2	100	71	5	12	4	2	4	2
Geneva	3	428	45	21	19	7	5		3
Mistelbach	3	84	74	25	1			3	3

[a] Not chronic.

Table 27. Alcohol and drug dependence
Episodes of care, two-year follow-up, by type of pilot study area, in percentages of N in each pilot study area

Pilot study area	Type	N	Episode of care						
			Outpatient[a]		Inpatient[a]		Mixed care[a]		Chronic
			Short	Medium or long	Short	Medium or long	Short	Medium or long	
Trieste	1	32	25	38			6	13	9
El Ferrol	1	36	61	28		3	6	3	
Oslo	2	15	53		7	20			20
Mannheim	2	36	61		28	6	3		3
Geneva	3	77	51	16	22	3	7		3
Mistelbach	3	30	37	17	30	10		4	4

[a] Not chronic.

Table 28. Organic psychosis
Episodes of care, two-year follow-up, by type of pilot study area, in percentages of N in each pilot study area

Pilot study area	Type	N	Episode of care						
			Outpatient[a]		Inpatient[a]		Mixed care[a]		Chronic
			Short	Medium or long	Short	Medium or long	Short	Medium or long	
Trieste	1	19	26	37			11	11	11
Oslo	2	10	70		10	20			
Mannheim	2	33	46		21	21	3	3	6
Geneva	3	13	23		39	23			15
Mistelbach	3	24	8		54	33		4	

[a] Not chronic.

areas. It is curious to see that Oslo relies heavily on short episodes of outpatient care only.

Table 29 also shows marked variation with regard to the care delivered to patients with schizophrenia or a paranoid state, but the differences between Types 1, 2 and 3 can still be seen.

All in all, the analysis of care based on "episodes of care" does not reveal greater uniformity in the patterns in the various areas; major differences still remain.

Duration of care

Perhaps the simplest way of describing the care delivered to the subcohorts in the various types of area is in terms of their rate of

Table 29. Schizophrenia and paranoid states
Episodes of care, two-year follow-up, by type of pilot study area, in percentages of N in each pilot study area

Pilot study area	Type	N	Episode of care						
			Outpatient*		Inpatient*		Mixed care*		Chronic
			Short	Medium or long	Short	Medium or long	Short	Medium or long	
Trieste	1	42	7	43			2	2	45
El Ferrol	1	13	15	15			15	39	15
Oslo	2	17	24	18	6	29		6	18
Mannheim	2	27	33	4	19	37	7		
Geneva	3	92	30	16	17	20	7		10
Mistelbach	3	11	18			18		18	46

* Not chronic.

departure from the network of services over time. This is represented in Fig. 14–17 for four diagnostic subcohorts, in two contrasting areas of each type, and shows, at various predetermined times, the percentages of cases who had at least one contact with a service during the previous interval but no further contacts during subsequent ones. For this reason, the curves do not continue for the full two years of follow-up. At 548

Fig. 14. Psychoneurosis or personality disorders
Percentages of patients in selected areas with no more contact after preselected moments during the follow-up period of two years

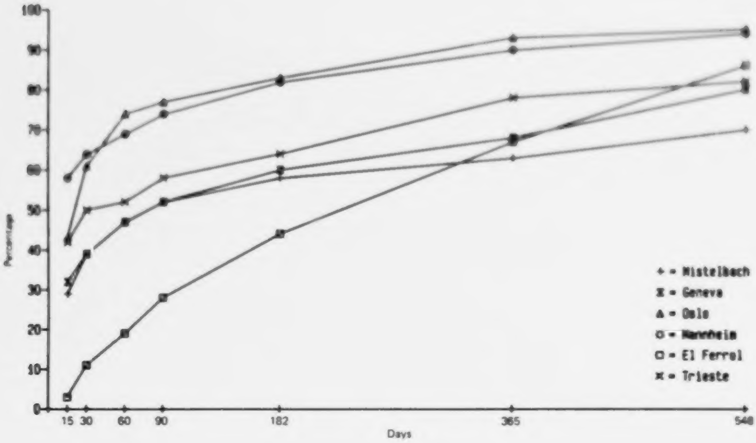


Fig. 15. Alcohol and drug dependence
Percentages of patients in selected areas with no more contact after preselected moments during the follow-up period of two years

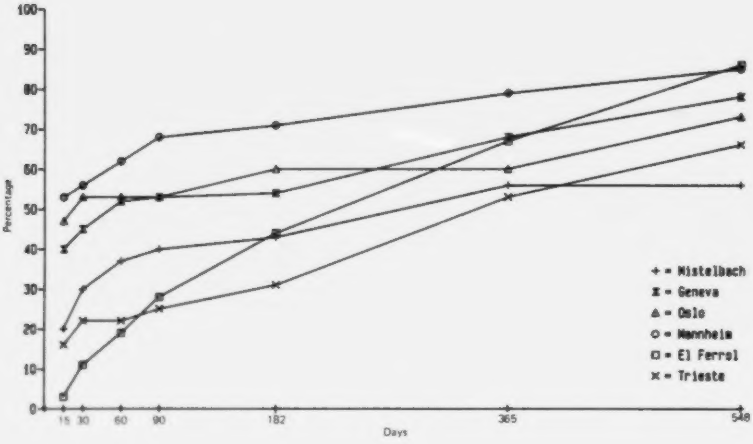


Fig. 16. Organic psychosis
Percentages of patients in selected areas with no more contact after preselected moments during the follow-up period of two years

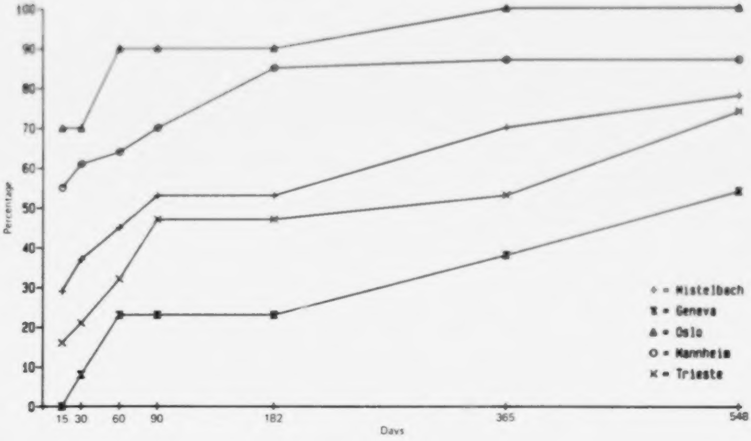
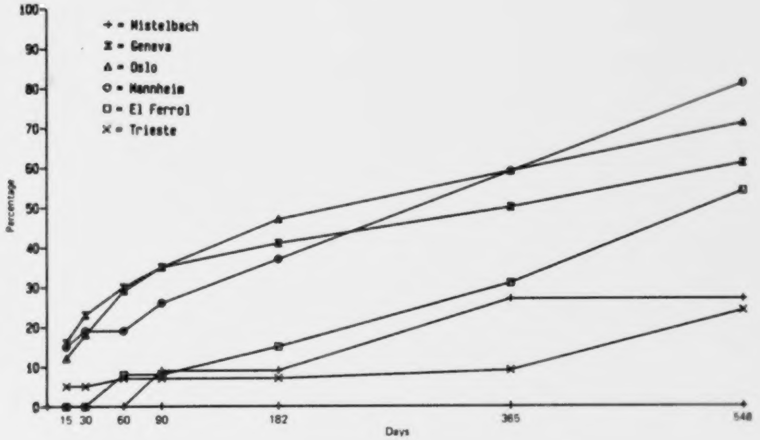


Fig. 17. Schizophrenia and paranoid states
Percentages of patients in selected areas with no more contact after preselected moments during the follow-up period of two years



days, the graphs show the percentages of cases without any contact during the last half-year of follow-up. It will be seen that the three types of area remain fairly distinct from one another throughout, but the Type 2 areas are most clearly differentiated. The Type 1 areas, and particularly Trieste, care for their patients for a longer period than the other areas, i.e. they show greater continuity of care.

The patterns for the neurotic groups are more or less identical, i.e. the curves are closer together than those for organic psychosis and schizophrenia in particular. The latter show greater continuity of care (or the lack of it in the case of Mannheim and Oslo), as well as a wider range of attrition rates very early on in the follow-up period.

In summary, this third type of analysis once more shows the wide variation in the care delivered in the various areas, the Type 1 area being outstanding in terms of continuity of care in respect of those diagnostic groups for which this would be of greatest importance.

Discussion

The comparisons made should be viewed with great caution, since the cohorts were by no means collected in a uniform manner, but even if they had been, differences would still have been possible, and have in fact appeared, in the age and sex distribution of cases. For example, the groups with organic psychoses showed marked variation in age and might therefore differ greatly in the more detailed diagnostic categories, e.g. the presence of senile or arteriosclerotic dementia (see Appendix 2). This could in itself explain variations in the pathways of cohorts in the services. In addition, those pathways are not necessarily representative of what actually occurred in the areas, since in some, not all the available services, e.g. psychiatrists in private practice, participated in the study. To enhance comparability, we decided to break down the cohort into diagnostic groups and to study the corresponding pathways; we thought that the groups of patients would then be more similar to one another, since all areas used the WHO International Classification of Diseases.

For the purpose of this analysis, we distinguished three types of area according to the availability of services, as follows: areas with mainly outpatient services; areas with numerous mental hospital beds, including places for day care; and areas with ample outpatient and inpatient services. It should be made clear that this classification is not always representative of what actually occurs in the area. For example, the data for Mannheim do not provide a correct picture of the outpatient care for the mentally ill of Mannheim, since private psychiatrists were not involved in the study. Although the cohort data give an impression of an area of Type 2, it could be that the whole of Mannheim, nevertheless, has to be classified as an area with a wide range of services. A first tentative conclusion was that existing services are used as fully as possible and therefore largely determine the pathway of patients in care, i.e. the distinction between the three types of area was on the whole true for all diagnostic groups. This suggests that a change or a shift in emphasis cannot easily be achieved simply by providing a new alternative; other action is necessary, e.g. closure of the less desirable type of service.

The above statement, however, is not true throughout the comparison. Considerable variation is possible in the management of certain diagnostic categories, such as the psychoneuroses and personality disorders, and this cuts right across the distinction between the three types of area. This flexibility in management is less evident in the case of organic psychoses or schizophrenia, where prolonged inpatient care appeared more common and unavoidable.

In the case of serious mental disorder, another impression is that inpatient and outpatient care are not true alternatives, unless perhaps if day care is available. The only exception in this respect was Trieste, which was able to deal with schizophrenia and paranoid states with much less inpatient care, although the latter was by no means absent.

Single outpatient contacts constitute a curious phenomenon. In some areas, as for example Mannheim, part of these large numbers might be due to the fact that only part of the outpatient services were involved in the study. Nevertheless, this raises the question of the outcome of cases. It is apparent that a comparison of the kind presented here should be complemented by a study of the outcome of mental disorder in relation to the various pathways through the services, and that measures of outcome should not include numbers of readmissions to care because this depends much more on the habits of the services than on the state of the patient. This has been clearly demonstrated by the present study, which has also shown that three rather different methods of analysis give a more or less identical overall picture of the pathway of a cohort through the services, albeit with some differences in emphasis or detail. This does not mean that the methods are all of the same value to the various kinds of consumer, however.

The clinician will find greater detail in the picture provided by the analysis in terms of "episodes of care". He will be able to detect differences in the care delivered to various subgroups, diagnostic or otherwise, of patients attending his service. For this purpose, he should not reduce the categories to the small number used here. As many as 30 different categories could be derived, showing much greater variation between the various subgroups of patients studied.

The third method of analysis, based on the "duration of the pathway in care", will be of much less interest to the clinician because it tells him nothing about the groups of patients still in his care. It will mean more to the planner or administrator; from the moment at which various groups of patients enter the services, he can quickly see when they will leave them, thus indicating the length of time for which they will constitute the caseload either of all the services together or of each service separately. The second method of analysis in terms of "types of contact" falls between the other two. It groups patients according to what happened to them during the first year of follow-up, thereby revealing the various patterns and combinations of inpatient and outpatient care. It is easier in this way to compare both services and diagnostic groups in the same or in different areas. If these data are combined with features of the caseload, such as numbers of contacts or days in hospital, they become of interest to the planner or administrator, who can use them in evaluating and determining mental health policy.

The present study has clearly demonstrated, with all three methods of analysis, that quantitative differences exist between the various configurations of mental health services in the different pilot study areas. Community-based outpatient care was achieved in some areas but not in others. What is still lacking is a qualitative evaluation of outcome, since no criteria for outcome were adopted. If, however, the intensive follow-up over a prolonged period of time of patients with, for example, schizophrenia is considered to be an indication of good quality mental health care, this quantitative analysis showed that such quality was achieved in some pilot study areas but not in others.

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Appendix 1

Methods of analysis: effect of simplifications

A number of simplifications have been made in the methods of analysis. Thus, no distinction is made between the various services in a given hospital or centre or, on a larger scale, between one hospital and another, or between one centre and another within the same pilot study area; the methods bring out only those cases where a patient moves from one hospital to another, since they give rise to a discharge and an admission, provided that the data are complete. In addition, in the first and second methods of analysis, the three types of consultation, A, B and C, are combined to form a single type. Finally, in the first method, stays which are not entirely included within the observation period are truncated.

In the first method of analysis again, events A, B or C taking place during a stay in hospital are considered as forming an ambulatory sequence by themselves, while in reality they often constitute the beginning or end of an episode of care; the existence of an admission E or of a discharge S sometimes causes an unreal division.

The predetermined value of 90 days adopted for dividing episodes (see definition 5) is fixed, although it might depend on the time intervals observed within the ambulatory sequence to be divided. This predetermined value is based on the average number observed in Geneva; it may have been too low for other centres, however, and this would result in too fine a subdivision of the ambulatory sequence: in an extreme case, each episode would contain only one event. Certain possible methods of defining an ambulatory episode have not been used; the aim is to provide a certain minimum number of events and to fix a predetermined value so that one final event, obviously separated in time from its predecessors, can be isolated from the rest of an episode, e.g. a purely administrative action or a check-up.

Finally, two other possible requirements may be noted: a minimum duration in the case of ambulatory sequences, and a minimum number of days or nights in the case of stays in hospital.

This discussion of the simplifications which were made also indicates the kinds of refinement that are possible in the different methods of analysis of a patient's care process.

Appendix 2
Reliability of coding

To test the reliability of coding, each pilot study area team was sent brief diagnostic statements and asked to classify these according to ICD-9. This constitutes, of course, only part of the whole diagnostic process, but contributes to our insight into the validity of our comparisons. Furthermore, the differences demonstrated during the exercise will be less evident in the comparison of diagnostic groups because of the grouping together of ICD-9 codes, which are as follows:

Diagnostic groups	*ICD-9 code*
1. Organic psychoses	290–294
2. Schizophrenia and paranoid states	295, 297
3. Affective psychoses	296
4. Other and unspecified psychoses	298, 299
5. Neurosis and personality disorders	300–302, 308, 309
6. Alcoholism and drug dependence	303–305
7. Mental retardation	317–319
8. Other	306, 307, 310–316, etc.

The diagnostic statements to be coded were as follows:

I: Mongolism and idiocy
II: Provocative, maladaptive and delinquent behaviour in a mentally subnormal and neurotic person trying to obtain admission to a sheltered home
III: Depression in a neurotic, chronic alcoholic
IV: Agressive behaviour in a mentally subnormal woman, when confronted with unstructured situations
V: Alcoholism in a person with a psychopathy following brain damage
VI: Paranoid psychosis in a deaf mute woman
VII: Involutional depression in a hysterical personality, intellectually subnormal
VIII: Postpartum paranoid syndrome with hallucinations in a woman with recurring psychotic episodes
IX: Post-influenza encephalopathy. Confused, autistic and depressed episodes
X: Dementia with aphasia, apraxia and agnosia, based on cerebral arteriosclerosis

Table 1. Diagnostic groups and deviant ICD-9 codes for 10 cases, coded by 30 participants

Pilot study area	NP[a]	Cases I	II	III	IV	V	VI	VII	VIII	IX	X
Mistelbach	2		319.0						298.4		
Leuven	1			300.4		310.1			293.0		
Randers[b]	2			300.4	310.9	309.2		310.9	294.4		
					301.1						
Mannheim	2				309.4	310.1					
					309.4						
Tampere	2			300.4	317.0				298.4	487.8	
				296.1					298.3		
Athens	3			300.4	309.3					310.8	
				300.4							
				311.0							
Dublin	1		319.0		319.0						
Groningen	1		317.0		317.0		298.4		293.8		
Oslo[b]	1			300.4	315.0				298.3	309.0	
Iaşi	5		312.0			312.0		Five times 311.0			
			312.0								
			312.0								

Table 1. (*Contd*)

Pilot study area	NP[a]	Cases									
		I	II	III	IV	V	VI	VII	VIII	IX	X
El Ferrol	2	758.0	317.0		317.0 301.3		298.4 298.4	311.0	294.8	323.4 310.8	
Leganes	2		319.0		319.0 301.3	291.2	301.0	319.0 301.5	293.0	310.8	
Geneva	2	758.0		300.4 300.4	319.0	309.3 310.2		290.3 311.0		310.8	
Nottingham	2		312.8	311.0	309.3						
Belgrade	1	758.0	319.0	300.4	319.0				293.1	310.8	
Zagreb	2	758.0	312.3 312.3		309.3 309.3	907.0	298.4 389.7			310.8	
Total	29										
Diagnostic group code		7	5	6	8	6	2	3	2	1	1
Percentage coding, same diagnostic group		87%	60%	60%	40%	73%	80%	63%	63%	70%	100%

[a] Number of participants

[b] ICD-8

The teams were asked to code:

—current mental state;
—alternative diagnosis;
—supplementary diagnosis.

They were also asked to supply the preferred diagnostic code if space for only one code was available.

Table 1 shows the results of the coding exercise. At the bottom of the table, the percentages of participants coding a certain case in the same diagnostic group are shown. For example, case VI (paranoid psychosis in a deaf mute woman) was coded by 80% of the participants in diagnostic group 2 (schizophrenia and paranoid state). If a cell in the table remains empty, this means that the participant(s) in the pilot study area concerned coded the case in the same way as that chosen by the majority. For example, Dublin coded case VI in diagnostic group 2.

Where participants did not agree with the majority, the ICD code used is shown in the cell. For example, one of the two participants from El Ferrol did not code case II in diagnostic group 5 (as did the majority) and selected 317 instead. There was generally reasonable, but by no means complete, agreement. Case IV gave rise to the greatest disagreement, since combinations of other diagnostic categories with either alcoholism or mental retardation lead to a hierarchical dilemma. Therefore, unless a diagnostic hierarchy is agreed upon beforehand, classification becomes less reliable, even though the diagnosticians were in complete agreement about what was the matter with the patient. The results of this exercise underline the caution required in comparing diagnostic groups.

6

The relationship between social conditions, service models and patterns of care

N. J. Lavik

Mental illness has been known throughout the ages; in order to cope with this problem, society has developed and organized different models of mental health service. The etiology of mental illness is multifactorial, but social conditions play an important role, both in its development and in the help-seeking behaviour of individuals suffering from it. Social conditions will therefore have an impact on the patterns of care delivered to patients by the mental health services.

The collaborative project "Mental health services in pilot study areas", which started in 1973, has produced a large amount of material in its final phase which will help to throw light on the relationship between mental health service models, social conditions and patterns of care. However, although the connection between these three concepts can be formulated in theory and is experienced in reality by every psychiatrist, it is a complicated task to demonstrate this scientifically with empirical data.

As pointed out in Chapter 4, the service models are different in the different areas because they form part of the culture and of the historical traditions of each country. In addition, the services have undergone changes during the project period in several of the pilot study areas. The main trend has been towards a reduction in the number of hospital beds and an increase in ambulatory services and other facilities as a result of a new approach to mental illness, in which greater emphasis is placed on the role of the community. Part of the work of the teams in the pilot study areas has been to help in bringing about these changes, but it is obvious that to measure and examine a process while it is taking place may well be difficult.

As far as social conditions are concerned, the possibilities and problems connected with the use of such parameters in social research have been considered by Moschel in Chapter 3. Some of the basic sociodemographic data, such as age and sex, do not give rise to any problems, but marital status may be more difficult, both to measure and to interpret, because of the increase in informal marriages in many countries over the last ten years. In some of the pilot study areas, other social factors, such as the levels of education and employment, housing conditions, and the presence of minority groups and foreign workers, may also be involved.

The ways in which the various types of mental health service operate can be seen from the patterns of care, which can be analysed in detail, taking into account both the type of care and the point in time at which the care was delivered, as demonstrated in Chapter 5. In the same chapter, the authors have also shown how different patterns of care can be distinguished and then used as a basis for comparisons between the cohorts from the different areas. In the present chapter, where the focus is on the relationship between social conditions, patterns of care and service models, relatively crude measures will be used to describe the data on the inpatient census, the composition of the cohorts and the use of services.

An important prerequisite for the linkage of data from the different sources is the existence of an information system. As outlined in Chapter 2, the degree of development of such systems differed in the various pilot study areas at the time the project was started; some areas had already established cumulative case registers, others were in the process of establishing them, while others had not yet begun to do so.

During the initial phase of a complicated piece of research, it is not possible to carry out experiments designed to test previously formulated hypotheses. Mental health service research is still at an early stage, so that this project is a kind of exploratory exercise where questions have been raised and efforts to answer them have been made with the aid of empirical data, the same methodology being used in the different areas. This should be borne in mind in any attempt to establish the relationship between service models, social conditions and patterns of care emerging from the project.

Methodology

Conceptualization of the relationships

The service models in the pilot study areas can be described in terms of the buildings, their location, the number of beds, the financing, cost, visiting rules, etc. However, the way the service models function or operate will appear from the care actually delivered to the patients, which can be divided into three types: inpatient, day patient and outpatient. It is also possible to measure the time that patients spend in care, its duration, and in what way and when it comes to an end. Patterns of care are thus the visible images of the service model in action.

Social conditions are related both to service models and to patterns of care. As pointed out by Walsh in Chapter 4, a broad spectrum of historical forces has influenced the development of the models of mental health service in Europe, social factors in the broad sense having been one of these forces. The poor social conditions of most of the individuals suffering from mental disorders were one of the reasons for the reforms at the beginning of the last century, which resulted in the building of asylums. The subsequent revelation of and increase in public awareness of the poor social conditions of the patients within these mental hospitals were also an important factor in the "deinstitutionalization" and the move towards community-based psychiatry that has taken place during the last two decades. Throughout history, poor social conditions have tended to be associated with psychopathology and to cast a shadow over the lives of individuals suffering from mental disorders. There can be no doubt that both public awareness and political will are necessary if service models are to be changed to the benefit of patients. The empirical documentation of the social conditions of patients receiving mental health care is therefore something which should at all times be on the agenda of all professionals working in psychiatry.

In the present project, the main aim was to study the influence of sociodemographic factors, not on mental illness, but on mental health care. It is therefore important to remember that being mentally ill is one thing, but to become a patient or a client of the mental health service is another. There is a pathway from mental illness to mental health care.

An individual who is suffering from symptoms of mental illness or displaying deviant behaviour is first observed by his or her closest associates, usually the members of the family, who may try to deal with the problems themselves. If they are unable to do so, they will probably seek external help, often from the primary health care services, whether private or public, in the first place. The mental health services usually come into the picture only in the next stage, through the chain of professionals. However, there are large variations in the way that this takes place, depending on tradition and the organization of general health care (*1*).

Social conditions are relevant at all stages of help-seeking behaviour. Classical psychiatric epidemiology has demonstrated that sociodemographic factors are related to mental disorders. The task for mental health service research is to develop this approach further and to show that social conditions have a differential impact on all the phases of help-seeking behaviour. This implies the need to study the relationship between sociodemographic factors, entry into different types of service, and the utilization of these services over time.

Operationalization of the concepts

Both patterns of care and sociodemographic factors have to be put into operation before they can be analysed by means of empirical data. In the present project, this was achieved to some extent by applying the same methodological strategies in all the pilot study areas: the existing patterns of care were examined in terms of common criteria. In order to determine what mental health facilities were available in the area at a fixed point in time, a census method was used in which answers were sought to the following questions: "How many patients from the area are in the service at the present time?" and "Who are these patients (diagnosis, sociodemographic factors)?"

In cohort studies, the sociodemographic characteristics of the patients entering the service were recorded. The patients were then followed in their passage through the service over a defined period of time and the utilization of the different types of service was noted.

Sociodemographic factors have been described, both for the total population and to some extent for both inpatients and the cohorts. The sociodemographic profile of the total population is described in terms of age, sex, marital status, employment, rate of population growth, housing conditions, minority groups, etc. In addition, some areas have recorded intra-area differences and changes in the population structure which have taken place in recent years, as well as a great deal of supplementary information. Many of these factors are of importance in the development of mental disorders, help-seeking behaviour and patterns of care. Some of the areas have also undertaken special studies, but for the purposes of studying the relationship between sociodemographic factors and patterns of care, only those data can be used which have been collected in accordance with the same criteria for the total population of an area, the inpatients and the cohort. In practice, this means that the empirical analysis has to be restricted in part to the relationship between patterns of care and age, sex and marital status.

Empirical analysis of the relationship

The aim of what follows is not to provide a comprehensive picture of all the possible relationships between patterns of care and sociodemographic factors in all the areas, nor to go very far in the difficult field of inter-area comparisons. A number of areas have been selected and used as examples to demonstrate the relationship between patterns of care and sociodemographic factors in the following ways:

- —analysis of the age and sex distribution of the total population of an area, the inpatients and the cohort;
- —analysis of the marital status of the total population of an area, the inpatients and the cohort;
- —analysis of the marital status in relation to the length of stay of the inpatients;
- —analysis of the relationship between the consumption of service over a period of time and social conditions (illustrated by the material from the Oslo cohort);
- —consideration of other social conditions and their possible influence on patterns of care.

Considerable problems are involved in these analyses. The areas chosen were among those which had provided sufficient data on their total population, inpatient census and cohort, but they are by no means representative of all the areas participating in the project. The times at which the population census and the inpatient census were made and the sampling period for the cohort did not coincide, and rates per 1000 population for age, sex and marital status of the inpatients have therefore not been computed (although some areas have themselves computed such figures). This time difference must be taken into account when, for example, the marital status of the total population and that of the inpatient population are compared. In addition, some of the inpatient groups are rather small, so that there are few patients in the different subgroups. Although the sociodemographic factors examined seem to be quite straightforward, the concept of marital status has changed in many European countries over the last 20 years because of the increase in informal marriages, so that there may be some doubt about what marital status really represents. However, in the project, the category "married" refers to formal marriage in most of the areas.

Much more information from the pilot study areas than what has been selected here could also be used to illustrate important relationships between social conditions, service models and patterns of care, but that will be left to the separate studies for each individual area.

Analysis of the findings

Age, sex and patterns of care

Table 1 shows the age distribution in 11 areas for which the figures for the total population of the area and the inpatient census can be compared; certain precautions must be taken in interpreting the figures:

—for most of the areas, there is a gap of some years between the time at which the census of the total population was carried out and that of the inpatient census;

—the inpatient census is representative only of the services which have been covered; not all institutions providing care to children and psychogeriatric services, e.g. nursing homes, have been sampled;

—the areas are representative only of themselves, not of their countries and, of course, not of Europe.

With these precautions in mind, the following trends emerge from an inspection of the table:

—for males, in the case of the young (15–24 years) and those in early middle age (25–44 years), the percentage is higher in the inpatient census than in the total population in nine of the 11 areas included in the table; for females, the same is true in only four of them;

—in middle age (45–64 years), the percentage of males is higher in the inpatient census than in the total population in nine of the 11 areas, and for females in ten of them;

Table 1. Percentage age and sex distribution of the area population and census of inpatients

Age (years)	Area population		Census inpatients		Area population		Census inpatients		Area population		Census inpatients	
	M	F	M	F	M	F	M	F	M	F	M	F
	Mistelbach				Tampere				Paris 7[a]			
0–14	27	23	15	7	21	19	2	0	14	11	6	0
15–24	15	12	15	3	17	16	6	6	17	15	7	6
25–44	24	20	36	31	32	28	28	17	30	26	43	18
45–64	21	24	19	42	21	23	32	30	24	25	40	41
65 +	13	21	15	17	21	23	32	42	15	23	10	35
	Mannheim				Athens				Dublin			
0–14	19	17	0	0	23	19	0	0	34	31	0	0
15–24	15	13	8	6	17	15	3	0	19	19	6	7
25–44	34	26	32	21	29	29	44	13	28	27	41	38
45–64	21	26	35	38	22	26	50	56	14	16	40	37
65 +	11	18	25	35	9	11	3	25	5	7	13	18
	Groningen[a]				Oslo				Leganes[a]			
0–14	27	24	13	1	17	14	0	0	47	44	0	0
15–24	18	19	19	6	16	14	19	10	14	14	4	3
25–44	26	25	31	25	28	24	44	35	27	29	31	23
45–64	20	20	17	22	26	26	31	22	10	10	46	41
65 +	9	12	20	46	13	22	6	33	2	3	19	33
					El Ferrol				Belgrade			
0–14					23	22	0	0	21	19	0	0
15–24					20	15	0	2	19	18	8	7
25–44					25	24	50	17	35	34	52	49
45–64					22	24	43	41	19	20	35	35
65 +					10	15	7	40	6	9	7	10

[a] Includes inpatients and day patients.

—in old age (65 years or more), there is a higher percentage of males in the inpatient census than in the area population in seven of the 11 areas, and for females in ten of them.

Notwithstanding all the reservations associated with this type of comparison, the findings seem to show that, among inpatients, young and young-to-middle-aged males and elderly females are over-represented. Inpatients are, of course, those who need the most comprehensive care. Many of them will have started as outpatients but, because of a combination of psychopathology, lack of social support and the inadequacy of other treatment facilities, have become inpatients and have stayed in hospital—in many cases for several years. They represent the past, both in terms of their own life experience and in those of the history of the mental health service in the area concerned.

The sex and age distribution of the patients entering the service will be reflected in the cohort, and Table 2 shows the age distribution of males and females in the cohorts in five areas. In interpreting these data, the same precautions apply as those already mentioned in connection with Table 1. However, in Table 2, the age distribution for the total population has been computed for the population over 15 years, as in the cohort, so as to increase the validity of the comparison.

It will be seen from Table 2 that:

- —for males, in the case of the young (15–24 years) and those in early middle age (25–44) years, the percentage in the cohort is higher than in the total population in all the five areas, and for females in four of them;
- —in middle age (45–64 years), the percentage is higher for both males and females in only one of the five areas;
- —in old age (65 years or more), the figures for both males and females are higher in two of the five areas.

It should again be stressed that the five areas represent only themselves and not all of the pilot study areas. The picture which emerges from these five areas is that youth and early middle age are the main phases of life in which patients enter the mental health services. To further elucidate the sex differences, the sex ratio (male/female) was computed for the total population, for the inpatient census and for the cohorts for each age group. These sex ratios are shown in Table 3,

Table 2. Percentage age and sex distribution of area population and cohort (over 15 years)

Age (years)	Area population		Cohort		Area population		Cohort		Area population		Cohort	
	M	F	M	F	M	F	M	F	M	F	M	F
	Tampere				Mannheim				Groningen			
0–14	23	19	12	19	18	16	24	17	25	25	25	16
15–24	40	34	48	43	42	32	51	36	37	33	45	29
25–44	26	29	34	28	26	31	12	22	26	26	15	19
45–64	11	18	16	10	14	21	13	25	12	16	25	36
65 +	11	18	16	10	14	21	13	25	12	16	25	36
					Oslo				El Ferrol			
15–24					18	14	21	23	26	19	16	20
25–44					36	27	49	35	33	31	50	48
45–64					24	26	18	27	29	30	28	20
65 +					22	33	12	15	12	20	6	12

Table 3. Sex ratio (males/females) for different age groups in area population, census of inpatients and cohort

Pilot study area		Age (years)					
		0–14	15–24	25–44	45–64	65 +	Total
Paris 7	Area population	0.97	0.84	1.10	0.78	0.52	0.84
	Census[a]		2.00	4.60	1.95	0.59	1.98
Mannheim	Area population	1.09	1.05	1.25	0.78	0.59	0.95
	Census		1.20	1.35	0.83	0.64	0.90
	Cohort		0.88	0.87	0.32	0.30	0.60
Groningen	Area population	1.03	0.91	0.98	0.95	0.71	0.94
	Census[a]	11.00	3.20	1.13	0.95	0.41	0.94
	Cohort		1.35	1.40	0.70	0.31	0.90
Oslo	Area population	1.30	0.93	0.99	0.85	0.48	0.84
	Census		2.20	1.50	1.50	0.14	1.06
	Cohort		0.60	0.89	0.43	0.46	0.64
El Ferrol	Area population	1.04	1.29	1.00	0.91	0.60	0.98
	Census			2.86	1.00	0.18	0.95
	Cohort		0.64	0.85	1.19	0.46	0.82

[a] Includes inpatients and day patients

which demonstrates clearly that the sex ratio is highest in youth and early middle age (15–24 years and 25–44 years) in the inpatient census and that this trend is reversed in the older age groups. This confirms the results presented in Table 1. The sex ratios are lower for all ages in the four cohorts than in the total population, which shows that women predominate among patients entering the service.

The relationships between age, sex and patterns of care which emerge from the selected data from some of the areas are not surprising, similar findings having been reported in several other studies (*2–4*). Any interpretation of the influence of age and sex on patterns of care must concern itself both with psychopathology and with sex roles. Although the incidence of psychosis is the same in both sexes, males tend, for example, to develop schizophrenia earlier in life than females. This may be part of the explanation of the higher figures for young males in the inpatient census, but differences in sex role expectations may be part of the subsequent help-seeking behaviour and of the nature of the contact with the mental health service. The gap between the general role expectations for young males and the behaviour of young schizophrenic males is so great that their ability to function in family and social life is very much reduced. This may in part explain why they come into inpatient care and why they tend to remain in such care for a long time.

Similar considerations have been put forward in order to explain the over-representation of women among patients entering the mental health service (the cohort). Thus, it has been claimed that intrapsychic symptoms are more common among women than among men and that women are more able to express their emotional problems verbally. This should make it easier for women to use the psychiatric consulting system, and should thus partly explain their over-representation in outpatient treatment facilities. On the other hand, it is claimed that psychiatric problems in males are more openly expressed in external deviant behaviour, e.g. by alcohol abuse, which is not so easily brought into the psychiatric treatment setting. The discussion of age and sex as determinants of mental health care patterns is still continuing, and the results obtained in the project should stimulate further investigations in this field.

Marital status and patterns of care

Marital status has already been extensively studied in social psychiatry, and its relationship to mental disorders was demonstrated many years ago (*5*), but great changes are now taking place. According to a Council of Europe report (*6*), a large number of factors have been operating in this process, but "we are witnessing a steady devaluation of marriage as an institution and a corresponding increase in the importance attached to its emotional functions". The divorce rate has increased rapidly, and informal marriages have become increasingly common in many countries; the latter phenomenon makes it more difficult to measure the *de facto* conjugal relationships between males and females based on statistics, which again affects the validity of empirical studies. However, there can be no doubt that family life and marriage are of great importance in relation to mental disorder and the need for mental health care, so that empirical research must continue, although care is necessary when the implications of marital status are interpreted.

In Table 4, the distribution of marital status in five pilot study areas as between the total population and the inpatient census can be compared for males and females in three different age groups. The same precautions as those already mentioned in connection with Tables 1 and 2 also apply to Table 4 when discussing the influence of age and sex. In addition, in the inpatient census, the numbers of patients in the categories widowed and separated/divorced are very small for some of the age groups, but in spite of these methodological problems, some trends seem to emerge quite clearly:

—in all five areas, the percentages of married persons are much higher in the total population than in the inpatient census; this holds true for both males and females in all age groups;

—this trend is most marked among young males and those in early middle age (25–44 years), where the single category is dominant in the inpatient census;

—the distribution of the widowed does not seem to show any distinct pattern, but the category of separated/divorced seems to be quite large in some of the age groups.

Table 4. Percentage distribution of marital status in different age groups in area population and census of inpatients[a]

		Males				Females			
		S	M	W	S/D	S	M	W	S/D
Paris 7									
Area population	25–44	35	61	0	5	33	60	1	6
	45–64	13	78	3	6	18	60	12	10
	65 +	10	71	15	4	16	28	48	8
Census[b]	25–44	93	5	0	2	78	22	0	0
	45–64	74	21	0	5	50	15	0	35
	65 +[c]	60	30	0	0	35	12	47	6
Mannheim									
Area population	25–44	22	73	2	3	13	79	2	6
	45–64	6	87	3	4	9	65	19	7
	65 +	3	76	18	3	10	32	54	4
Census	25–44	81	12	1	6	44	30	2	24
	45–64	60	18	5	17	41	24	17	18
	65 +	42	17	18	23	37	13	39	11
Groningen[b]									
Area population	25–44	17	81	0	2	13	84	1	2
	45–64	6	90	2	2	8	79	10	3
	65 +	6	73	20	1	12	37	50	2
Census[b]	25–44	77	19	4	0	70	26	0	4
	45–64	47	20	0	33	70	15	15	0
	65 +	18	53	29	0	15	19	66	0
Oslo									
Area population	25–44	31	61	0	8	22	66	1	11
	45–64	7	85	2	6	10	70	9	11
	65 +	6	76	13	5	20	39	41	7
Census	25–44	80	7	0	13	44	35	0	21
	45–64	52	24	5	19	29	21	29	21
	65 +	25	25	0	50	14	10	71	5
El Ferrol									
Area population	25–44	18	81	0	1	12	85	2	1
	45–64	10	86	3	1	15	72	12	1
	65 +	11	71	17	1	26	30	43	1
Census	25–44	95	0	0	5	72	14	0	14
	45–64	72	14	0	14	65	29	6	0
	65 +	67	33	0	0	65	23	11	0

[a] S = single; M = married; W = widowed; S/D = separated/divorced.

[b] Includes inpatients and day patients.

[c] Marital status unknown.

Table 5 shows the distribution of marital status in four pilot study areas in the cohort. This distribution can be compared with that for the total population for males and females in three age groups. The trends observed are more or less the same as for the inpatient census:

Table 5. Percentage distribution of marital status in different age groups in area population and cohort*

		Males				Females			
		S	M	W	S/D	S	M	W	S/D
Tampere									
Area population	25–44	22	72	0	6	16	75	1	8
	45–64	8	83	3	6	13	64	15	8
	65+	8	67	22	3	21	24	50	5
Cohort	25–44	39	44	0	17	25	54	2	19
	45–64	32	52	8	8	20	60	11	9
	65+	0	80	0	20	23	38	31	8
Mannheim									
Area population	25–44	22	73	0	0	13	79	2	6
	45–64	6	87	3	4	9	65	19	7
	65+	3	76	18	3	10	32	54	4
Cohort	25–44	48	33	0	19	18	56	2	26
	45–64	36	55	0	9	14	39	22	25
	65+	0	59	33	8	8	6	68	8
Groningen									
Area population	25–44	17	81	0	2	13	84	1	2
	45–64	6	90	2	2	8	79	10	3
	65+	6	73	20	1	12	37	50	2
Cohort	25–44	36	50	0	14	31	52	0	17
	45–64	14	79	0	7	20	50	25	5
	65+	7	47	46	0	8	32	51	9
El Ferrol									
Area population	25–44	18	81	0	1	12	85	2	1
	45–64	10	86	3	1	15	72	12	1
	65+	11	71	17	1	26	30	43	1
Cohort	25–44	36	61	0	3	13	81	4	2
	45–64	28	64	8	0	24	52	19	5
	65+	0	83	0	17	39	46	15	0

* S = single, M = married, W = widowed, S/D = separated/divorced

—the percentage of married people in the age group 25–44 years is much lower in the cohort than in the total population;

—the percentage of separated/divorced in the same age group (25–44 years) is larger in the cohort than in the total population.

Only five areas were selected for this analysis, and once again it should be stressed that they should not be taken as representative of any other areas, but the results from these areas leave no doubt as to the strong links between marital status and patterns of mental health care. The type of care seems to be important, and this is demonstrated by the fact that, for the same age group, the percentage of married people is much lower for inpatients than for the cohort. This indicates that marital status has first a selective impact on patients entering the service (cohorts) and then is further related to the decision regarding inpatient treatment. In order to elucidate this problem further, the relationship between marital status and time spent in care as inpatients is summarized for seven pilot study areas in Table 6, which shows that the percentage of patients who stay more than one year in inpatient care is lowest for the married category.

The trends emerging from the selected data from the project are not surprising when compared with those revealed by other research. Many studies have shown higher utilization rates of the mental health services by single persons and by the separated/divorced (*7–9*). The sex difference in marital status in the present project shows that married men in particular seem to have lower utilization rates than unmarried men.

Another aspect of this sex difference is the fact that married women seem to have higher utilization rates than men. Increased stress and excessively burdensome role expectancies for women in marriage have been proposed as explanations (*10–12*).

The fact that marital status is relevant not only to being in care but also to the type of care and the consumption of care over time has been demonstrated in many ways. Married people more often enter the service as outpatients than as inpatients as compared with the unmarried (*13*). Furthermore, marital status is related to length of stay, number of consultations and risk of readmission (*14–17*). It is not easy to formulate a simple theory to explain all the empirical data on the relationship between marital status and patterns of care.

Several decades ago, Ødegaard (*5*) put forward three main hypotheses which still seem relevant:

- —the *causation* hypothesis: marital status causes or protects against mental disorder;
- —the *selection* hypothesis: mental disorder influences the attainment of different types of marital status;

Table 6. Long-stay inpatients in relation to marital status: percentage of patients who have been in care for more than one year in each category of marital status[a]

	Males					Females				
	S	M	W	S/D	Total	S	M	W	S/D	Total
Paris 7[b]	67	85	0	33	68	65	57	50	63	61
Mannheim	81	53	82	66	75	77	53	82	65	51
Dublin	50	32	25	100	48	40	29	26	56	34
Groningen[b]	73	47	67	100	71	85	29	53	0	62
Oslo	41	25	100	30	38	62	23	53	33	37
Leganes[b]	89	75	50	100	89	94	61	82	33	84
El Ferrol	82	75	33	0	80	79	70	33	0	71

[a] S = single, M = married, W = widowed, S/D = separated/divorced.

[b] Includes inpatients and day patients.

—the *help-seeking* hypothesis (called the hospitalization hypothesis by Ødegaard because his data were based on inpatient admissions); marital status affects the ways that help is sought from the mental health services.

The three hypotheses are not mutually exclusive and their relative contributions still remain to be assessed in order to explain the empirical finding that marital status is related to mental health care.

Other possible strategies

The efforts presented in the preceding pages to analyse the relationship between age, sex, marital status and patterns of care constitute a rather cumbersome exercise. The procedure used—a comparison between the distributions in the total population of an area, in the patient census and in the cohort—was chosen because the common level of the data base in the project did not permit other strategies. One of the goals of a broad collaborative project is precisely to see how far it is possible to go by way of common data sampling and data processing. However, in some of the areas, more reliable studies could easily be done on the influence of age, sex and marital status on the patterns of care. The strategy would be to compute rates of patients per 1000 population in order to measure the different patterns of care for each sociodemographic category, e.g. number of single males aged 25–44 years per 1000 population in inpatient care. The obstacle in the way of such a more efficient procedure is not the processing of the data (which is very simple with existing computing technology), but rather the obtaining of both the data and the permission to use them. This is mainly an organizational and political question, in which the following would seem to be important:

—the existence of an information unit, designed and equipped for the sampling and processing of data;
—cooperation between the information unit and all the relevant mental health services within the catchment area;
—access to updated and relevant information about the total population of the area (age, sex, marital status, etc.);
—the granting of permission by the political authorities and agencies set up for the implementation and supervision of data protection laws.

Social conditions and consumption of service over time: the Oslo area

The cohort analysis undertaken in this collaborative project was designed to answer two main questions:

—what is the pattern of care over time?
—which conditions (psychopathology and social conditions) determine this pattern of care?

In an attempt to answer these questions, an analysis of the cohort material carried out in the Oslo area will be described. A complete description of this analysis is given elsewhere (*18*), but this presentation focuses on how the concept "consumption of service over time" was put into operation and describes the methodology and the findings.

Consumption of service

During the two-year period, patients might have various combinations of outpatient, day patient and inpatient episodes. In order to obtain a cumulative measure of consumption for each patient, an index of total consumption of service was constructed by assigning points on the following basis:

Type of episode	*Number of points*
One outpatient consultation	1
One day in day patient service	2
One day in inpatient service	3

All the treatment episodes could then be summarized for each patient by a particular number of points. This index is only a very crude measure, since the time element is combined with a rough evaluation of the care given, e.g. one outpatient consultation of one hour is only 1/24 of an inpatient day in terms of time, but the value of one outpatient consultation with a skilled psychotherapist can, of course, be greater than many days spent in an institution as an inpatient. In other studies, index scores have been based on more detailed information, e.g. the Total Resource Utilization Estimates (TRUE) score in the work of Bloom (*19*).

Whether or not the index is simple or more detailed, great care should be taken in interpreting the results, but with this critical awareness in mind, such an index does provide one possible means of measuring the cumulative aspect of utilization, where all types of services are taken into account. The distribution of scores for patients in the cohort, in terms of the index of service consumption, varied from one point (a single outpatient consultation) to 2016 points, which indicated hospitalization for most of the period. The distribution of the patients in terms of the index is shown in Table 7, where the index points are divided into nine subgroups. It can be seen that 88.6% of the patients account for only 19.3% of the index points. This shows that a small group of patients are heavy consumers of the service and leads to the next question: what is the role of psychopathology and of social factors in this distribution of service resources?

Relationship between consumption of service and sociodemographic and clinical factors

To analyse the relationship between sociodemographic and clinical factors and service consumption, the patients were divided into five

Table 7. Distribution of patients on the index of service consumption

Groups of index points	Number of patients	Sum of index points	Percentage of: patients	index points	Cumulative percentage of: patients	index points
1	47	47	22.3	0.2	22.3	0.2
2-5	53	161	25.1	0.7	47.4	0.9
6-10	26	200	12.3	0.9	59.7	1.8
11-50	34	1 206	16.1	5.1	75.8	6.9
51-100	13	831	6.2	3.8	82.0	10.7
101-200	14	1 880	6.6	8.6	88.6	19.3
201-500	9	2 833	4.3	12.9	92.9	32.2
501-1000	10	6 202	4.7	28.3	97.6	60.5
> 1000	3	8 493	2.4	39.5	100.0	100.0
Total	211	21 853	100.0	100.0	100.0	100.0

groups, according to their service consumption scores (Table 8):

- —patients with only one consultation;
- —small users: patients with 2–5 outpatient consultations or 1–2 days as day patients;
- —moderate users: patients with 5–50 outpatient consultations, 2–16 days as inpatients or 3–25 days as day patients;
- —heavy users: 50–200 outpatient consultations, 16–60 days as inpatients or 25–100 days as day patients;
- —very happy users: more than 200 outpatient consultations, more than 60 days as inpatients or more than 100 days as day patients.

A bivariate analysis of the relationship between service consumption and sociodemographic factors showed that there were more males than females among the heavy and very heavy users. The difference was most marked in the younger age groups. Females accounted for the highest percentage among the moderate users, the sex difference being statistically significant ($P < 0.05$). There was a higher percentage of unmarried than married patients among the heavy and very heavy users, but the differences are not statistically significant. As far as occupational

Table 8. Groups of service consumption

	Index points	Number	Percentage
Single consultants	1	47	22
Small users	2-5	53	25
Moderate users	6-50	60	29
Marked users	51-200	27	13
Heavy users	>200	24	11
Total		211	100

status is concerned, the highest percentages of heavy and very heavy users were among patients who had disability pensions, were undergoing rehabilitation or were unemployed. The expected frequencies were too small for statistical testing.

With regard to diagnosis, psychotics had a far larger proportion of heavy and very heavy users than the other diagnostic groups, and the differences were highly significant ($P < 0.01$). This bivariate analysis therefore indicates that both sociodemographic factors and clinical diagnosis contribute to the variation in service consumption.

For a further study of the impact of sociodemographic and clinical factors on service consumption, an automatic interaction detection (AID) analysis was carried out.[a] The service index was the dependent variable (criterion variable) and age, sex, nationality, civil status, occupational status, social class and diagnosis were the independent variables (predictors). It should be emphasized that the interpretation of the AID analysis, as in all multivariate analyses, rests on the meaningfulness of the predictors used in the analysis. What emerges from the analysis is the pure mathematical relationship between the variables. Their chronological effect on the dependent variable, however, and their ultimate causality must be based on interpretation and additional information.

In the present analysis, it should be emphasized that some of the independent variables are not really independent of service consumption: marital status, and even more occupational status, may be influenced by the fact that the individual is both a psychiatric patient and a consumer of service, while the multivariate technique does not place the possible causal factors in order on a logical chronological chain. These aspects must be borne in mind in the following presentation and interpretation of the results.

Fig. 1 shows the pattern of the AID analysis, and it can be seen that occupational status is the predictor which explains most of the variation in the service index. From the total of 211 patients with a mean service index of 103.6, a group of 28 patients with disability pensions or undergoing rehabilitation and with a service index of 455.0 can be split off. The other group, containing 183 patients and including the other categories of occupational status, has a mean service index of 49.9. When the group of 28 patients is followed further in the hierarchy, they can be split at the next stage, on the basis of marital status, into a group of 16 unmarried persons having a mean service index of 722.8 and a

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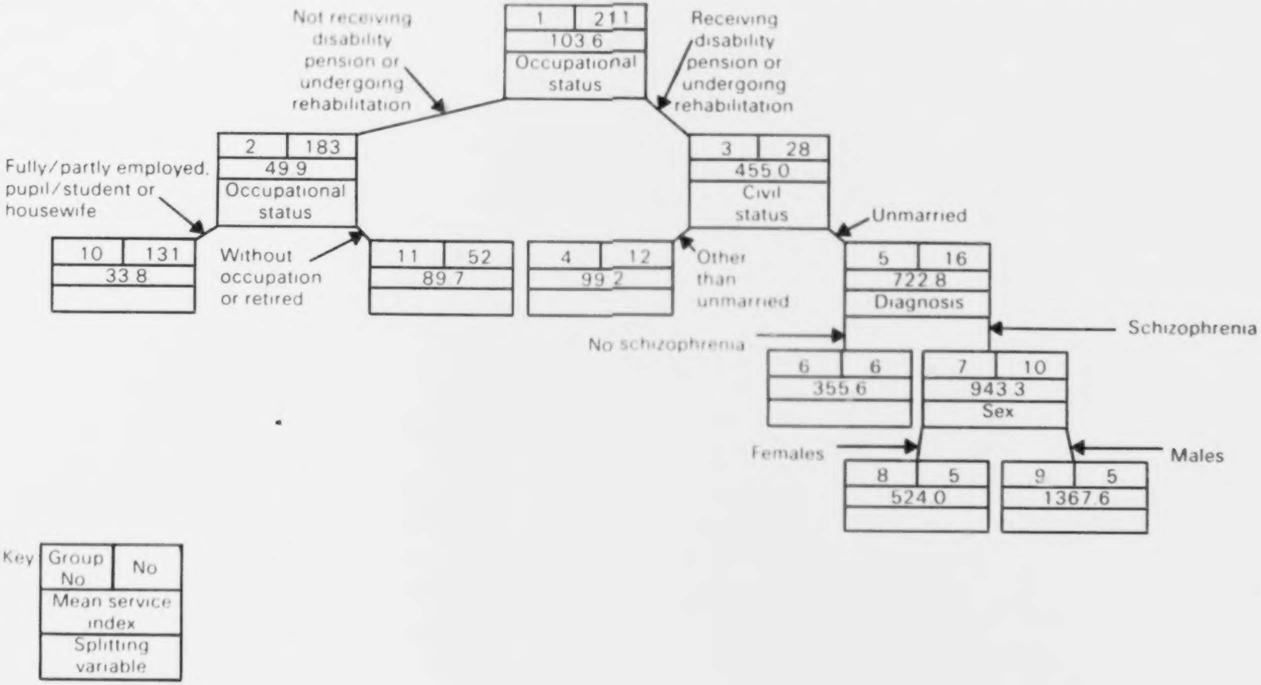
[a] AID has similarities with multiple regression analysis, but differs in that it accepts a nominal and ordinal level of the independent variables; the dependent variables must be on an interval level. The method works by a hierarchical division of the data. The programme searches through the independent variables and finds the variable that splits the material into two groups in such a way that those groups have the highest internal homogeneity for that variable (reduce the variance of the criterion to a minimum). At the next stage, the two groups are further split according to the same principle. The result is a hierarchy of groups which show the interaction of the independent variables and their relation to the dependent variable.

Fig 1 AID analysis of consumption of service and sociodemographic and clinical factors


1 | 211
103 6
Occupational status
Not receiving disability pension or undergoing rehabilitation
Receiving disability pension or undergoing rehabilitation
2 | 183
49 9
Occupational status
3 | 28
455 0
Civil status
Fully/partly employed, pupil/student or housewife
Without occupation or retired
Other than unmarried
Unmarried
10 | 131
33 8
11 | 52
89 7
4 | 12
99 2
5 | 16
722 8
Diagnosis
No schizophrenia
Schizophrenia
6 | 6
355 6
7 | 10
943 3
Sex
Females
Males
8 | 5
524 0
9 | 5
1367 6
Key
Group No
No
Mean service index
Splitting variable

group of 12 in the other categories of marital status having a service index of 99.2. The group of 16 unmarried persons can again be split, on the basis of diagnosis, leaving a group of schizophrenics with a service index of 943.3. The last split on this branch is by sex, the five males having the highest service index of 1367.6. In the other branch of the hierarchy, the group of 183 was again split by occupational status as a further stage. A group of 131 falling within the categories of full employment, partial employment, pupil/student, housewives and others had a mean service index of 33.8. The other group of 52 (retired and without any occupation) had a mean service index of 89.7.

In this analysis, it is important to note the special skew distribution of the dependent variable, the service index: where 88.6% of the patients were responsible for only 19.3% of the points in the index. This means that the analysis does not differentiate so clearly at the lower range of the scale. The results of the AID analysis can be summarized as follows. One branch of the hierarchy leads to a group of patients having maximum service consumption, who are without any occupation (either recipients of a disability pension or undergoing rehabilitation) and are unmarried, schizophrenic and male. Another branch leads to groups with lower service consumption, and characterized by a more active and structured occupation pattern (employed, pupil/student, housewife). The picture emerging from the multivariate analysis thus supplements the findings of the bivariate analysis.

Discussion

The results of the present study reveal certain distinctive trends in the pattern of service utilization. The index of service consumption shows that 10% of the patients use 80% of the service or conversely 88.6% of the patients use only 19.3% of the service. These results are in accordance with those of other longitudinal studies within comprehensive service models. In a study by Henizs et al. (*20*) at the Connecticut Mental Health Center in New Haven, the conclusion, following a similar analysis, was that "15% of the patients absorb about 70% of the total effort of the institution", but in the present study, social factors seem to be of relatively greater importance. Both absence of occupation and unmarried status were clearly related to heavy consumption, in both the bivariate and the multivariate analysis, but the methodology does not make it possible to place the roles of the different factors precisely on a logical chronological chain that would explain the pattern of service utilization. The difficulties arising in the effort to disentangle the relative contributions of clinical and sociodemographic factors are, in fact, part of the problem. The development of psychopathology—the pathway to the mental health service and the pathway within it—is deeply embedded in social life. Interpersonal relationships and the fulfilment of social roles are both partly a cause and partly a consequence of mental illness, help-seeking behaviour and service consumption.

Other relevant social conditions

The research teams in the pilot study areas have recorded and described many other social factors of importance for mental illness, help-seeking behaviour and patterns of care. Some of them can be expressed in terms of quantitative data which can be presented in tables, e.g. employment status, types of household, population reproduction. Other social factors, however, can be described only in qualitative terms, e.g. changes in cultural and political values. Some of these factors are considered below.

Intra-area differences

Few of the pilot study areas are homogeneous: some include both urban and rural populations, and there are large differences in employment, types of housing and standards of living. These differences have been systematically investigated in a few areas. Moschel has shown, in Chapter 3, how such indicators can be constructed in order to describe and classify different subareas within a city and how this subclassification is related to social instability and mental illness. In Tampere, intra-area differences have been found in the utilization of the mental health service and in the frequency of disability pensions. The figures are higher in the agricultural areas, probably due to the migration from them of the younger age groups, leaving a population structure with a higher proportion of elderly people with a higher risk of mental illness. In Belgrade, intra-area differences were found in the indicators of social instability: the divorce rate, suicide rate and frequency of juvenile delinquency vary considerably within both the urban and the suburban subsectors of the city. It is expected that, to assist in drawing up the future mental health care programme for this area, the mental health care institutions will carry out further epidemiological studies of mental illness.

Employment situation

As a result of the general economic recession in Europe, many of the areas have reported higher unemployment during the project period, but systematic empirical studies of the impact of this situation on mental disorders and patterns of care have not been carried out as part of the project. General clinical experience and other research have shown that unemployment may have deleterious effects on mental health and thus an impact on help-seeking behaviour. At the present time, unemployment is probably of greatest importance to the younger age groups, not only because they are usually the most severely affected by it, but also because many of them have never had any work experience. There is undoubtedly a connection between this lack of work experience and the failure to develop a mature identity. Unemployment cannot, however, have been the main cause of drug abuse among the younger age groups; in most countries, this became a problem before the economic recession had started. Nevertheless, it probably helps to make the problem more difficult to solve, by reducing the funds available for rehabilitation. In the present situation, there is a danger that the mental health service may become a home for the victims of the unsolved problems of society, e.g. the unemployed.

Minority groups, foreign workers

Some of the areas report an increase in minority groups over the past decade, and mainly in foreign workers, but studies focusing specifically on the utilization of the mental health service by these groups have not been carried out as part of the project. However, the important contribution made by minority groups to psychiatric morbidity is well known from other studies (*21*). However, interpretation both of prevalence rates in the community and of the utilization of the mental health service is complicated by factors relating to emigration from the home country and to immigration into the host country, while the problems do not affect the foreign workers alone but also their families. Finally, the type of symptomatology and deviant behaviour must be taken into account. Some studies from Europe have reported a high frequency of deviant behaviour among children of immigrant parents at school but not at home (*22*), but other studies have found less mental illness in children of immigrant parents than in other children (*23*). Although there are probably certain common trends in the psychosocial and psychiatric problems of minority groups, there may also be large differences, depending both on the minority groups themselves and the stresses to which they have been exposed.

Social change

One of the most striking characteristics of modern society is the rapidity with which changes have taken place at many levels. This is reported from most of the areas, both qualitatively and in terms of statistics. There have been industrial changes: some factories have closed down, but new industries have been started. In some areas, there has been an increase in the total population, in others a decrease. In most of the areas, the population structure is changing in the direction of a higher proportion of elderly people, but there are exceptions to this rule. Certain cultural values and standards are ceasing to be respected, and new ones to replace them have not yet appeared. The mental health service is part of this dynamic process, but the changes in the mental health field should not be looked upon merely as a reflection of what is taking place in society. Some innovations in the mental health services have important "spin-off" effects for other social institutions. Thus, after new legislation on the mentally ill was introduced in Italy, the changes made in Trieste not only resulted in major improvements for the former patients of the mental hospital, but the psychiatric services also came more closely into contact with the city's problems and paid more attention to patients' social conditions. As a result, problems were brought to light that were not considered as purely psychiatric in their scope, but also involved other health and welfare services. This shows that mental health services need not be a kind of rubbish dump among social institutions or mental patients the last in the queue. Political will, reforms and professional determination can place the mental health services in the forefront of social institutions working to achieve greater human dignity for those who are suffering.

Summary and conclusions

The relationship between social conditions, service models and patterns of care has always been recognized by professionals in mental health services. The collaborative project which is the subject of this volume provided an opportunity to acquire greater experience and to discuss these relationships in the light of the empirical findings from pilot study areas in many European countries.

There are a number of methodological difficulties in this type of multicentre research from the point of view of the representativeness, reliability and validity of the data; these have been outlined earlier in this chapter and should be taken into consideration when the data are interpreted. The findings of the project support the view that social conditions have a considerable impact on patterns of care. Age, sex and marital status are related to the utilization of the mental health services in many ways: the mode of entry, utilization over a period of time, the risk of becoming an inpatient and the length of stay all depend on these sociodemographic factors. For example, females enter the mental health services more frequently than males, young males are over-represented as inpatients, and the unmarried have a higher risk than the married, both of entering the service and especially of becoming an inpatient. In interpreting these relationships, it is necessary to appreciate both the selective impact of psychopathology and the stress factors associated with the sex roles and different categories of marital status. Many other social conditions were explored in this project, and some areas have described differences within subsectors and methods which enable them to be studied further. During the project period, there was a considerable increase in unemployment, but data relevant to its impact on mental health care did not have to be collected. In some of the areas, reference was made to the size of minority groups and the numbers of foreign workers, but their influence on patterns of mental health care needs further study.

In most of the areas, many changes have taken place over the last ten years in industry and in population structure, as well as in values and lifestyles. The changes in the mental health services have been a part of this general process, but should not be seen simply as a reflection of those taking place in other social institutions. History contains many examples of innovations initiated by professionals which have resulted in major reforms. Both the establishment of asylums at the beginning of the last century and the development of community-based psychiatry in recent years are part of this historical process.

The experience acquired in the course of the present project has shown the importance of adequate information systems for the study of the relationships between social conditions and the utilization of mental health services. It is also important to be able to link information on the population in a catchment area with the patients in the mental health service and to trace the patients' utilization of the service over time.

The development of efficient and correctly functioning service models can probably never become a kind of applied science, but will have to be based on a combination of knowledge, economic feasibility and political will. Nevertheless, mental health service research such as the present project can help to throw light on the way that service models operate, provide a more rational basis for administrative decisions and stimulate further research.

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7

The pilot areas study and the context of mental health care

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The pilot areas study described in the foregoing chapters covered a period of ten years, during which mental health services throughout Europe were undergoing substantial change. Although overtly concerned with establishing means of measuring mental health care and evaluating services, the study was itself also part of these broad developments in the extent, accessibility and style of psychiatric service provision. These derived from growing concern about the quality of life of people in long-term care, mostly in large institutions, about the basic human rights of people with mental illness and disability, and about the very limited degree to which they shared in the technological advances of modern medicine and generally increased affluence of much of Europe.

WHO has played a considerable part in this development through the mental health programme of the Regional Office for Europe, which has coordinated ideas, opened up the issues to general debate, stimulated activity, and generally helped to promote developments in Member States throughout the Region. The pilot areas study was part of that programme and related to some extent to the survey of mental health services in Europe undertaken by May in 1972 and published in 1976 (*1*). Although there were many indications of the general way in which mental health services were developing, May's detailed assessment was hampered by the lack of data relating to most of the agencies, facilities and personnel providing care for mentally ill people, with the exception of inpatient hospital services. Perhaps more surprisingly, most of the same problems were still encountered when, in 1982, WHO repeated the exercise of surveying mental health provision in Member States (*2*).

Of course, where a mental health service consists of little more than a segregated psychiatric hospital, recording its activities is relatively easy, but as services become more extensive, more informal, more diverse, more dispersed and more integrated into other aspects of health and welfare, even the crudest monitoring of the provision of care or measurement of the use of services becomes complex, difficult, and expensive. Throughout the 1960s, there was a slow development of psychiatric case registers to try to cope with this situation, and the pilot areas study stimulated the more rapid extension of this means of recording the mental health service experience of a whole population.

Where such registers were not feasible, other means were employed in order to measure standard parameters of service use. However, even in the context of an international study which required a high degree of involvement, and even for quite small populations, many difficulties were experienced in establishing adequate information systems to provide satisfactory and standardized statistics. It is hardly surprising, therefore, that routine national mental health statistics from the wide variety of countries in the European Region are very difficult both to collect and to collate in standard form, making interpretation doubly difficult.

The second WHO survey in Europe (*2*) was not limited to numerical data but, in addition, national governments were asked about policy formulation, legislative framework, and service structures. Without exception, they subscribed to the general principles of the WHO mental health programme, and although many have not yet put them into practice, there appears to be a high degree of consensus throughout Europe on the general direction in which care for mentally ill people should develop. Thus the WHO programme has promoted a very consistent view of what is desirable and provided a clear framework for planning. Documents emanating from the programme, especially in recent years, have been generally clear and specific about the nature of the changes required to improve the treatment, care and rehabilitation of mentally ill people, and also about the problems faced in implementing them.

In its most important features the message is unequivocal. The planning and management of services for specific communities or populations should be integrated and coordinated; mental hospitals should be steadily reduced in size and importance and the focus of work shifted to the community itself; alternative inpatient treatment should be provided in general hospitals alongside other medical specialities; residential care should be located as near to the population it serves and impose as few restrictions as possible; outpatient facilities and day care should be available wherever patient needs can be met without admission; groups of people with clearly defined special needs, such as children, the elderly, alcoholics and mentally abnormal offenders, should be cared for by specialized services; non-medical extramural and domiciliary care by social workers, nurses or other trained personnel should be widely available so that people can remain at home and as much as possible in "ordinary life" situations; training of all personnel should be extended and improved; and mental health personnel should, wherever feasible, work in multidisciplinary teams serving defined populations.

Mental health legislation

Legal provisions can largely be divided into those concerned with the restraint and protection of individual patients, including the regulation of compulsory admission, discharge procedures, appeals, protection of property, etc., and those promoting or prescribing facilities, personnel, professional training, and service structures. In the past, legislation has mostly been of the former type, and the results of the WHO survey, in spite of the very poor data available, suggested strongly that there are still many countries with high proportions of patients compulsorily detained in hospital.

However, in recent years, more and more countries have legislated for the positive development of care for mental illness. The new laws have prescribed to varying extents the basic nature and organisational structure of services; there has also been a clear trend in the most recent legislation to recognize the rights of mental health patients. Items covered have included the devolution or decentralization of planning; monitoring and management responsibilities; the integration of psychiatric care into general medical and public health services; sectorization and multidisciplinary teams; training standards for professional personnel; provision of social care, etc. In most countries there has been a shift from domination by doctors and large institutions towards comprehensive community-based multidisciplinary care networks, but the survey shows that progress in this direction is generally very slow. Since there are many vested interests in the maintenance of the status quo, natural resistances to changes in the old pattern of care, and considerable costs involved in making such improvements for whole communities, it may require legal action, even of a dramatic nature, to effect real progress. The experience of Italy may be regarded as supporting this view.

Changes in service structure

A common policy dilemma faces all countries, whatever their political and social structure, in relation to mental health services. In a highly centralized organization for the delivery of care, it is easier to develop new policies, determine minimum standards of care, and ensure equal distribution of resources and standardization of information for monitoring and resource allocation. However, such a system may be ponderous and inflexible as well as bureaucratically wasteful, inhibiting to local initiative and experimentation, and insensitive to variations in need. Decentralized service organizations encourage local initiatives and quicker responses to changing attitudes and perceptions of need, and may better be able to ensure a satisfactory quality of care, but do not necessarily have the administrative capacity to reproduce approaches that have been successful elsewhere.

In practice, a dynamic balance between the two types of organization is almost certainly required, if progress is to be both fairly rapid and controlled, and if the value of a variety of pragmatic experience is to be efficiently exploited. The second WHO survey found a general tendency towards more centralized, state control over the last decade; it is possible that this is necessary in many countries at the present stage of development of mental health services, if any significant progress is to be made, particularly in situations where changes in the law are necessary.

Even where legislation and widespread organizational changes have promoted service improvement, there is a continuing need to develop satisfactory infrastructures in order to facilitate development in particular communities. Some progress has been made in escaping from total dependence upon large, custodial and often remote institutions, and on psychiatric medical specialists, towards community-based, sectorized, diversified and multidisciplinary services. Such progress has been slow in general, though major advances have been made in some communities. Some have restructured their services so as to delegate overall responsibility for cooperation and integration to local authorities, others have experimented with formally designated trial or demonstration zones, while sectorization of hospital catchment areas has become quite common, multidisciplinary teams are working in many places, and there has generally been an increase in the contribution made by members of professions other than medicine. Pilot areas were by definition local, and necessarily worked within their own national structures; they therefore had to face and to resolve this dilemma in a variety of ways. This should be very valuable experience for use in further development.

However, shifting the focus of care from the hospital to the community as a whole needs more than a growing network of diversified facilities and personnel. A satisfactory infrastructure must be available to coordinate planning and monitoring, but even more importantly, clear leadership is required in long-term development, as well as the establishment of management posts filled by people with managerial skills and a comprehensive community outlook. Without these, national laws and policies may never be implemented at community level, and decentralization and sectorization may be ineffective in improving the treatment, care, rehabilitation, and community support of most mentally ill people.

Changes in the location of hospital inpatient provision

Two principal complementary elements are involved in the inpatient contribution towards achieving the objective of comprehensive, community-based services: the establishment of general hospital psychiatric units, and the concurrent decline of the segregated mental hospital. The provision of other facilities should also assist the development of a community service using only a relatively small number of hospital beds. Although this objective is generally accepted, the WHO survey (*2*) showed that there is still heavy dependence on the mental hospital, most countries having more than 90% and only three apparently having less than 80% of hospital psychiatric beds still in mental hospitals.

It is also generally agreed that the environment of very large institutions is unlikely to be conducive to effective treatment, high standards of care, positive rehabilitation and the protection of human rights. There does seem to have been real progress here, with a reported reduction in the number of hospitals with over 1000 beds by about 60% and none now claiming over 2000. The largest changes of this type appear to have occurred in Italy, Spain and the United Kingdom. Similarly the average size of hospitals has fallen and there is some evidence of fewer custodial and more therapeutic and liberal regimes.

The establishment of psychiatric units alongside other medical specialties in general hospitals has long been accepted as a natural and proper development of inpatient care. There are seldom significant administrative or legal barriers to this and modern therapy has made very short periods of inpatient care practicable for most patients. This matches the image and mode of operation of the general hospital, which is generally less restrictive and less stigmatizing than specialist and segregated psychiatric hospitals. It is also easier for a community-based service to encompass a general hospital unit than a segment of a large mental hospital. The average length of stay does seem to have diminished, while at the same time the number of such units has increased significantly, so that there are now countries in both eastern and western Europe where virtually the whole population has access to one. In many others, however, plans to provide this type of facility have barely begun to be implemented, and the data in the WHO survey imply very slow progress.

This development cannot take place in isolation, of course, since it requires the simultaneous run-down of the large institutions so as to liberate manpower and financial resources. It is, therefore, most likely to be effective in the context of a clear national policy and of the devolution of responsibility for psychiatric services to manageable units of population. It is also unlikely to happen in the absence of additional finance for these services, which have generally been under-funded in the past.

Similarly, the desired reduction in the predominance of inpatient services provided by psychiatric hospitals will take place only if adequate community facilities are provided, and if there is a positive policy promoting their use. An "optimum" ratio of beds to population cannot exist since the provision of beds interacts dynamically with all other provision for the same community. Nevertheless, countries with a very high bed provision are unlikely to have a satisfactory service overall. Through the 1970s, virtually all countries with more than one psychiatric bed per 1000 population had reduced their number, those with the largest number at the time of May's survey showing the greatest reduction. This is encouraging but, on the other hand, the three countries with less than 0.5 beds per 1000 at that time (Algeria, Morocco and Turkey)[a] had even lower ratios in 1982 (*2*), presumably because of population growth.

The present publication also shows the enormous variation between the pilot areas in relation to accommodation for the mentally ill. However, their collective experience has added valuably to the debate about alternative accommodation for people disabled by psychiatric disorder, and has demonstrated the need for clarity about what constitutes a mental hospital, a hostel, a supported group home, etc. Similar clarity is needed when dealing with the provision of medical specialties which overlap to varying extents with psychiatry, such as neurology and geriatrics.

Outpatient and day care

The extension of outpatient care to the mentally ill is an obvious corollary of the integration of psychiatric care into general medical and general hospital practice, the building up of local facilities and the extension of domiciliary care. In most countries it has been linked closely with the development of general hospital psychiatric units, but in eastern Europe, the polyclinic system offers an alternative model, and in some countries there has been progress directly from a mental hospital base. Data on outpatients in the WHO survey were very poor, but indicated that progress has been slower than might have been expected, and that there is still a long way to go before outpatient treatment, where appropriate, is the norm in psychiatry.

For many communities, especially in rural areas, integration into primary health care offers the only hope of an accessible service. There are few data available, but great variation seems to exist in the degree to which primary health care doctors and the primary health care team accept responsibility for psychiatric illness in exactly the same way as for physical illness. To some extent, of course, this also applies to towns in industrialized countries, where the potential for primary mental health care is almost certainly under-realised (*3*). Primary health care was not included in the WHO survey, nor could the pilot areas study add much information about it, but it may represent the only means whereby most of the mentally ill can obtain quick and effective treatment and long-term supervision within easy reach of their own homes. Recent developments in community psychiatric nursing, starting from a primary care base, are now providing some experience of one possible model (*4*).

Day care is very variable in style and type, serving therapeutic, educational, rehabilitatory, occupational or social functions. Particular facilities may be reserved for the mentally ill or the elderly, or be generally available to a broad clientele; they may as often be provided by social or welfare agencies as by health agencies. Few data are available from which any generalizations can be made about provision for day care throughout Europe, or even in one country, and the survey produced little information of value in this respect. Since day care may sometimes provide satisfactory local alternatives to long-stay residential care, is so variable in its objectives, and is not a cheap alternative when staffing levels are reasonable, a major descriptive and evaluative study of it is needed. Perhaps at least some of the pilot areas would be able and willing to participate in such an investigation, using the machinary already set up.

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[a] Algeria and Morocco were then both Member States of the European Region of WHO; Algeria was transferred to the African Region in 1985 and Morocco to the Eastern Mediterranean Region in 1986.

The data from the pilot areas illustrate well the difficulties of standardizing descriptions even of service networks. Outpatient services may provide far more than a mere consultation, especially in a polyclinic. Mental health centres not only provide day care in addition to the outpatient service, and often very informally, but may also contain some beds. Thus all forms of care are often combined, and inevitably tend to be confused.

Personnel

The quality of the care provided to those with psychiatric disorders is highly dependent upon the quality of staff. Nurses continue to provide the bulk of psychiatric care, and the survey yielded some evidence of an improvement in the number of trained nurses and in the total number of nursing staff, though the variation between countries in the early 1980s was enormous: from 4.8 to 362 per 100000. However, there are still large numbers of untrained staff in most countries. Though most care is actually in the hands of nurses, traditional nurse training in institutional settings may be quite inappropriate for community-based services, with their emphasis on diversity of facilities and domiciliary care.

The information on mental health services contained in both the 1982 WHO survey of country profiles and the pilot areas study show changes in this direction, however slowly such changes may appear to take place. However, one of the most important means whereby further and more rapid development can be achieved is an expansion and reorientation of nurse training. This is not without its difficulties since, quite apart from the financial resources required, training appropriate to the services of the future must take into account the necessary role flexibility, and must therefore overlap with the training of other professions, perhaps especially with that of social workers. The establishment of multidisciplinary teams responsible for the comprehensive care of small, defined populations could not only improve the coordination and efficiency of services, but also provide a more satisfactory setting both for the basic training of student "care personnel", and the continuing education of all professional staff involved.

Nurses, though numerous, tend to be of low status and have little influence; psychiatrists tend to dominate the scene, and indeed, the most dramatic change recorded in the WHO country profiles is an increase in the number of medical psychiatric specialists in virtually all countries. As for psychiatric beds, there is probably an optimum range for the psychiatrist population ratio, and this will be influenced by the availability and commonly accepted roles of other professionals—particularly those engaged in primary health care, certain other medical specialties and psychology. Few would argue against having a certain number of psychiatrists, but a service with large numbers of such highly trained and highly paid staff accustomed to work for long periods with a small number of individual patients, while untrained and low-paid staff care for the vast majority of people disabled by mental illness, is using scarce resources in a very inefficient way.

If the minimum reasonable provision of psychiatrists is considered to be 1 per 100 000 population, only two countries (Algeria and Morocco) had less in 1982. If the maximum reasonable provision was 4 per 100 000—rather a high figure as compared with many other forms of health care—the vast majority of countries for which there were data exceeded it, and gave evidence of a substantial recent increase. Indeed, the average for the 21 countries providing data to both the 1972 and 1982 surveys rose from 5.6 to 6.7 per 100 000. Though psychologists are at a much lower level of provision, they have relatively increased even more. If the way that they work is similar to that of psychiatrists, which is increasingly the tendency, this may merely compound the problem. On the other hand both professions, but particularly psychiatrists, might accept greater responsibility in a number of directions. These could include: planning and development of community-based care; leadership of multidisciplinary service networks; staff training and retraining appropriate to the care of both acutely ill and chronically disabled people; support of primary health care teams; public education; and the development of national mental health policy. The increasing absorption of relatively large proportions of national mental health financial resources by psychiatrists might then be justified.

This would, of course, require new or extended training options for psychiatrists, though the multidisciplinary working situation might provide a great opportunity for them also. Countries which are generally short of all personnel are usually also desperately short of training facilities, but most countries need to take a new and comprehensive look at the training of mental health personnel in general. Different situations will require different solutions, but coordination and sharing of training is likely to be relevant everywhere, as emphasized in a recent Richmond Fellowship report (*5*). The pilot areas are clearly greatly influenced by their particular cultural traditions in defining the roles, employment structures, and training of mental health professionals, but their experience of cooperation in the study for as long as ten years suggests the possibility of further international cooperation in training.

Information

The WHO survey (*2*) revealed continuing inadequacies in national mental health statistics and in the means of collating them. The importance of such information in planning and monitoring services, especially in times of change, cannot be doubted, and many different methods have proved of value. A few countries have established comprehensive registers either for the whole country or for specific areas; others have set up monitoring systems for specific developments, while others have relied on occasional one-off studies. The pilot areas study was, in part, a response to May's earlier survey of mental health services and his conclusion that adequate information systems were lacking; its principal objectives, in fact, were concerned with the improvement of such systems.

Thus the objectives were, in the short term, to establish in each area a reliable system of data collection capable of providing an agreed standard statistical description of the services and of their use by a defined population; in the medium term, to improve the validity and accuracy of the information available for planning and evaluating services; and in the long term, to determine the relative effectiveness of different patterns of service provision for defined groups of patients. As a remote objective, it was also hoped to move towards establishing minimal norms of material and manpower resources for an acceptably effective service. Though not necessarily stated explicitly, there were also a number of subsidiary objectives relating to the standardization of measures of service use, possibilities of international cooperation in studies of this type, and stimulation of greater awareness, interest, and involvement in the development of comprehensive community-based services with a shift in the focus of care away from the large mental hospital.

To what extent did the pilot areas study realise these objectives, or achieve other, unplanned results? Have there been overall achievements of the project as a whole, or only a variety of achievements in different areas? To what extent have achievements within the project itself effected permanent improvements in mental health information in each particular area and in the country as a whole? Has the study revealed anything new that would help to push forward the changes in mental health services which are the subject of so great a consensus in the European Region, and to help evaluate those changes beyond the mere enumeration of patients, facilities, and staff? The bulk of the evidence on which the answers to these questions can be based can be found in the two parts of the present volume.

There seems little doubt that the immediate aim of establishing effective information systems in the pilot areas themselves was essentially fulfilled, though the degree to which this was true varied, as did the manner in which it was carried out. Dupont has described the various systems and their advantages and disadvantages, inevitably placing some emphasis on long-term case registers. The fact that so many registers have been started and are now in operation in many countries must be considered, at least in part, as a major effect of the study. Also, within the context of the study, and particularly because of the involvement of Mannheim, the very important and difficult conflicts between the requirements of service management and those of research, together with the protection of personal privacy, have been given prominence in a major forum of international debate. In addition, some impetus has been given to the determination to find acceptable solutions to these conflicts.

In spite of these local difficulties, psychiatric case registers represent a very important and expanding field of information science, which will probably dominate mental health service information and perhaps, psychiatric epidemiology, over the next ten years. Together with other influences, the pilot areas study has helped to bring together those responsible for registers, with their specialized skills and expertise, so that they may learn from one another and collectively increase the efficiency and usefulness of their systems. It seems likely that this contact and cooperation will continue to grow, and will be reflected in the scientific literature of the next decade. The extension of registers to other communities may well depend on this process, since they increasingly require skilled and specialist direction, for which effective training is most likely to come from working with established registers.

Not every area was able to establish a case register, and the study also demonstrated what could be done to provide high-quality information with much more limited systems. As Dupont points out, however, the longevity of these systems will depend upon local resources, interest, and will; some, unfortunately, may not outlive the study. Similarly, for all areas, the prospects of extending the system to other areas or to a state or the population of an entire country are hard to predict. Making registers so broad in coverage or so large would generally be neither desirable nor possible, but the strong hope remains that the experience gained from participation in the study will stimulate improvements in information systems elsewhere, including national systems. Local interest and commitment to high-quality information was a necessity in each area if the project was to be completed, but in some cases only a very few people may have increased their experience and skills, and they may not themselves be able to maintain the same commitment in the future. It is obviously very important to ensure that such hard-won expertise is not lost, and this again points to the need for training opportunities and for appointments specifically in the field of mental health information and epidemiology. There are few of these in any country at present, however.

There was a great deal more to the study than setting up data collection and processing systems, though the importance of these basic concerns should not be under-estimated. Very valuable experience was gained in developing epidemiological methods to cope with the many difficulties of defining, measuring, and interpreting the phenomena observed. Giel and his colleagues describe many of the issues, problems encountered, and solutions attempted in a valuable contribution to epidemiology in a very difficult field, and these methodologies can be developed further and applied in different ways. Their cautions should also be heeded; for example, grouping "patients" together is hazardous because of heterogeneity in the conventional classifications, especially in diagnosis, and many separate groups may still show distinct differences in their use of the services and future history. They also note that, for all the variety of measures used in the study, there was still very little that could even hint at quality of outcome. Far more sophisticated measures are still required, and much work has yet to be done in this respect.

Nevertheless, a great deal was learned from the data collected and analysed and, within the limitations of the quantitative measures used, there are perhaps two outstanding general lessons. Firstly, the observation that a patient's progress through a service complex and "use" of particular service elements is determined more by the nature of the services than by the particular characteristics of the patient. To many, this will hardly seem new or surprising, yet it is not commonly understood, and to have it clearly documented in an international study is valuable. For example, it was clearly demonstrated that to use readmission to psychiatric care as an index of "outcome" is valueless since it "depends much more on the habits of the services than on the state of the patient." For the same reasons, inpatient and outpatient care are not in any way true alternatives, unless deliberate and consistent policy makes them so.

Policy also determines the response of the services as a whole to the development of new elements. Giel and his colleagues believe that the data from the study suggest that "a change or a shift in emphasis cannot easily be achieved simply by providing a new alternative; other action is necessary, e.g. closure of the less desirable type of service." An identical conclusion was also reached after detailed analysis of over a decade of data from a case register not involved in the pilot areas study. However, this may not apply to all forms of mental illness, and there were great variations in patterns of care in pilot areas with respect to psychoneuroses and personality disorders.

Many individual elements within a service could readily be compared from the study data, and such comparisons would reveal many interesting and instructive variations. With such a wealth of data and with the range of human experience encompassed by mental health services, it is not surprising that general, overall comparisons of areas were found impossible; this reinforced the very proper mistrust of the idea of a "blueprint" for services. One of the principal reasons for this is the importance of social and demographic determinants of both service provision and use. This became evident in the early years of the study, and stimulated the work on social indicators. The two chapters by Moschel and Lavik explore different aspects of the relationship between service experience and the wider social context, as well as problems of conceptualizing and measuring indicators of relevant social variables. Subtle and detailed indicators relating to quality of life are of very doubtful utility, but even simple demographic indices, such as age and sex composition and population density, were found useful, indeed necessary.

The development of different patterns of mental health services was clearly dependent upon social, demographic and economic factors, as well as on psychiatric morbidity and the current state of scientific knowledge. Common trends were demonstrated in the relationship between sociodemographic indicators and the patterns of utilization of services. Sex, age, marital status, work status, migration experience, and many other factors are important influences on help-seeking behaviour and on the response to help offered. Because of the great changes now occurring in most European population structures and in social behaviour, these indicators need to be monitored in exactly the same way as the continuing use of services. The analyses and comments arising from the pilot areas study should provide a useful stimulus to this work.

These chapters, like the rest of Part I and the whole of Part II of this volume, also constitute a warning against simplistic statistical analysis or any other description of mental health services. They encompass an immensely complicated set of interrelationships between environment, illness experience, community resources, professional traditions, demographic history, etc., all of which must be accommodated in any serious attempt to understand, rather than merely to describe mental health care. No longer can anyone accept something as crude as "psychiatric beds" as implying anything of significance in isolation from the social and demographic context, which is far harder to record and analyse. Indeed, it will be difficult in the future to accept far more sophisticated statistical descriptions of community mental health services as having any validity, unless they are accompanied by detailed statistical and historical analyses of the social and demographic context. As services have become more informal, diverse, and dispersed, so information systems need to be more sophisticated, and this is, perhaps, the main argument for the extension of psychiatric case registers. In isolation, however, the data collected by registers will still be sterile—bones without flesh—unless they are accompanied by a profound and detailed knowledge of the dynamic human community from which they derive. As Moschel says, the interpretation of social phenomena requires scientifically based information on social reality.

He also points out that similar information or indicators are necessary to provide both evidence of need for change and a basis for planning such change. The context of the pilot areas study was the changing scene in mental health services in Europe, and its ultimate justification must be its impact on services. Walsh describes not only the variety of service patterns but also the variety of their dynamics. They are all changing in different ways and at different rates, yet all the 21 pilot areas "subscribe to many common basic policy and operational principles." The general direction of change is agreed. A situation in which all are at different stages on essentially the same journey makes it peculiarly instructive and, no doubt, sometimes salutary as well, to work together on a major long-term project such as this. That individuals and local groups of professionals have met new ideas, gained wider experience, and been stimulated by fresh enthusiasms cannot be questioned, and it seems highly probable that this learning experience will be translated into local action directed towards further improvements in the services.

Recommendations

At the final meeting of the pilot areas in Trieste in April 1984, the experience acquired in the study over ten years was discussed. The problems encountered and the particular value of that experience necessarily varied from area to area. More general lessons may be learned and conclusions reached from the present publication, but the participants in the Trieste meeting also made the following recommendations:

1. The broad direction of changes in mental health services in Europe is generally recognized and approved, but there is concern about the slow rate of change and about the problems which arise within care systems in a state of transition. Governments are urged to expedite measures to overcome the constraints that inhibit progress towards improving the care of the mentally ill and disabled.
2. The development of ambulatory and other services as alternatives to the mental hospital should take place within the context of a comprehensive and coherent plan which incorporates all the facilities serving a defined population.
3. WHO should further contribute to the improvement of mental health services through the development of techniques of intervention, and by helping to devise better definitions, classifications and evaluative instruments which can be used specifically in primary health care.
4. WHO should stimulate the further development of integrated mental health information systems, which should be an essential part of any evolving mental health care programme, and assist in the provision of training programmes in appropriate information skills.
5. As a follow up to the project on mental health services in pilot study areas, WHO should consider the promotion of multicentre cohort studies for specified diagnostic groups, with emphasis on measures of outcome and cost-benefit analysis, and including data relating to families and social support systems.
6. International guidelines should be drawn up for the protection of the rights of individuals (including their right to receive appropriate treatment) in relation to mental health information systems.
7. WHO should further promote appropriate training for health and other personnel, focused on non-institutional care. This should include training in methods of promoting practical community involvement, and also post-professional training in the epidemiological, planning and management skills needed to bring about developments in community-based comprehensive mental health services.
8. Building on the work carried out in the project on mental health services in pilot study areas, WHO should encourage the development of: (*a*) techniques for evaluating mental health services; and (*b*) studies of specific activities within these services, including treatment, rehabilitation and preventive actions.

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The general directions for the journey, the principal objectives of development, are set out in the WHO mental health programme. Some areas have gone a long way towards achieving them, some have barely started, but the evidence suggests that the study itself has contributed significantly to progress in most of them. In some countries, the lessons learned in the pilot area have already been applied elsewhere or incorporated into national plans. It also seems likely that the experience of establishing and using much more sophisticated information systems will be found useful beyond the confines of the original areas. Many new research ideas, or further developments of those explored in the study, will be taken up. These and other benefits of the study can undoubtedly contribute to the continuing improvement of mental health care, but will do so only if resources are provided, professional enthusiasm is maintained, and political will engendered. As Lavik concludes: "Political will, reforms and professional determination can place the mental health services in the forefront of social institutions working to achieve greater human dignity for those who are suffering."

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Part II

Area descriptions

Introduction

J. U. Hannibal & G. H. M. M. ten Horn

In order to compare the 21 pilot study areas—their sociodemographic characteristics, the general mental health and social welfare services as well as their patterns and the care delivered by them—it was necessary to restrict analysis to part of the collected data. In the preceding chapters in Part I, common trends were thus demonstrated in the relationship between sociodemographic indicators, the services and their utilization, while many differences among the areas also became apparent. To understand the significance of certain results a detailed knowledge of the situation in the areas is needed. For this reason, a description of each area has been included in Part II.

Each area description is divided into three sections, of which the first contains sociodemographic data with separate paragraphs on employment and the housing situation, predominant ethnic and religious groups, and indicators of social stability. In some areas special studies were undertaken to gain insight into the changes that have occurred over the past decades, whenever the investigators believed that these might have had—or still have—an important impact on service utilization. As an example, in Paris (13th *Arrondissement*) the radical reconstruction that has taken place since the early 1950s is described in detail. In most areas, because of the absence of available census data, problems were encountered in the collection of up-to-date figures for each item. In all cases the teams tried to make the picture as complete as possible in respect of those characteristics that they felt to be of particular value for their area.

At the end of the first section a brief description is given of the health services available in the area, together with information on whether the services are paid for out of public funds and/or by health and social insurance schemes, and a general picture is given of the health situation, including morbidity and mortality indicators such as infant mortality, life expectancy at 1 year of age and the five leading causes of death.

In the second section the mental health services (both inside and outside the area) that can be called upon in the area are described, including information on the emphasis in policy on distribution between inpatient and outpatient services and the constraints that exist. For each service the nature of its function, the employed personnel and types of funding are given. For some areas, a detailed cost analysis has been included, while for others the emphasis is on a detailed account of the therapeutic beliefs and attitudes of mental health staff in the area.

The third and last section contains the results of the patient census and cohort study. Within each area an attempt has been made to compare the characteristics of patients in the mental health services at a certain point in time (the census) with those of new patients, or patients entering a new episode of care (the cohort study). Since in Phase III of the study the main interest shifted towards the passage of patients through the services, the two-year follow up data for the cohort have been analysed in detail for each area. This analysis was undertaken for all 21 cohorts by the Geneva and Groningen centres. The Geneva team developed a special programme (CONV) in order to construct "episodes of care" (see Chapter 5). Its presentation in standard Tables C1–C5 and Figs. C1–C3 allows for comparisons between pilot study areas in addition to those presented in Part I.

Table C8 is of special importance for comparison within an area, and shows eight patterns of care specific to it. As pointed out in Chapter 5, these patterns of care vary from one area to another, e.g. "short episodes of outpatient care" may not have the same number or density of contacts in different areas. In the notes to Table C8 the content of these "episodes of outpatient care" is described separately for each area.

Finally, most centres have explained the main needs for changes and improvement in their area and/or described the short-term objectives of their services.

Mistelbach, Austria

The pilot study area

General and geographical information

Mistelbach is a rural county in the north-eastern part of Lower Austria, which is one of the nine Federal States of Austria. It has an area of 1290.38 km^2 (6.4 % of Lower Austria and 1.5 % of the Republic of Austria) and 75 092 inhabitants (5.3 % of the population of Lower Austria and 1 % of the total population of Austria according to the 1971 population census).

The county of Mistelbach takes its name from the main town of Mistelbach, which is situated half-way between Vienna and the Czechoslovak border, 55 km to the north-east of Vienna. In 1971, its population was 10 174 (1971 population census). It has all the major facilities possessed by towns of this size in Austria, including a hospital, a courthouse and a secondary school. There are two other towns, Laa an der Thaya with 6938 inhabitants and Poysdorf with 6159 inhabitants (1971 population census), which lie closer to the Czechoslovak border.

Geographically, it is a hilly county, lying to the north of the River Danube, its height above sea-level being between 153 m and 491 m. Northwards, it flattens out into plains and in the south runs into the valley of the Danube. The climate is temperate subalpine. It is well served by roads (0.16 km per km^2) while railways play a less important role in the system of communications.

The area is well known for its wines and is part of the *Weinviertel* (wine district), which also comprises three other counties adjacent to Mistelbach. Apart from wine, grain is grown, and the fact that 40 % of the labour force is employed in agriculture (Lower Austria, 21 %; Austria, 9.5 %) makes Mistelbach a predominantly agricultural region. The level of industrialization is rather low: there is only one firm with more than 500 employees. The low level of industrial activity and the relative poverty of the district must be seen in the context of its marginal geographical position.

These structural problems have led to a steady decrease in the population caused by substantial emigration, mainly to Vienna. Between 1961 and 1971, the population decreased by 5.4 % and by a further 4.8 % between 1971 and 1976. The recently published census of May 1981 gave a figure of 71 525 inhabitants, showing that the rate of decrease has slowed down considerably.

Sociodemographic profile

Population by sex, age and marital status

Emigration has had its repercussions on the demographic situation. As those who remain are the elderly, there is a substantial proportion of inhabitants aged 65 years or over (17.3%; Lower Austria, 15.2%; Austria, 14.2%; 1971 population census); 53.3% of the population are female; 18% of the female population are widowed, as compared with only 4% of the male population (see Tables 1 and 2).

Table 1. Population by sex and age, absolute and as a percentage of total population, 1971[a]

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Absolute						
Males	9 492	5 368	8 359	7 176	4 654	35 049
Females	9 105	4 712	7 948	9 928	8 350	40 043
Total	18 597	10 080	16 307	17 104	13 004	75 092
Percentage						
Males	12.7	7.1	11.1	9.6	6.2	46.7
Females	12.1	6.3	10.6	13.2	11.1	53.3
Total	24.8	13.4	21.7	22.8	17.3	100.0

[a] Total population at May 1981 census: 71 525.

Table 2. Population by sex, age and marital status, 1971

Sex	Age	Marital status				Total
		Single	Married	Widowed	Divorced	
Males	< 15	9 492				9 492
Females		9 105				9 105
Males	15–24	4 722	638		8	5 368
Females		3 288	1 401	8	15	4 712
Males	25–44	1 259	6 943	21	136	8 359
Females		675	6 941	191	141	7 948
Males	45–64	414	6 421	226	115	7 176
Females		1 079	6 549	2 145	155	9 928
Males	≥ 65	233	3 373	991	57	4 654
Females		899	2 460	4 917	74	8 350
Males	Total	16 120	17 375	1 238	316	35 049
Females		15 046	17 351	7 261	385	40 043

Employment and main economic activities

According to the 1971 census, 69% of the population aged 15–64 years were economically active (89% of the males and 52% of the females); 5% were unemployed. The percentage of employees in Mistelbach (84%) is slightly smaller than in Lower Austria (89%) and Austria (86%). Of the labour force, 40% is employed in agriculture; the main industries of the area are metal-working and machinery, which are still holding their own, while the foodstuffs and textile industries in the area are reducing the number of their employees. Because of the low level of industrialization, 20% of the labour force have to look for employment outside the district, mainly in Vienna.

Population distribution and housing

Except for Mistelbach and to some extent Laa an der Thaya and Poysdorf, the pilot study area is rural. The population density (68 inhabitants per km^2) is low compared to that of Lower Austria (119 inhabitants per km^2) and Austria (214 inhabitants per km^2). Of the total population, 16% live in houses built in 1961 or later, there is no overcrowding, and electricity is available to all dwellings. In general, the housing situation is comparable to that existing elsewhere in Austria, so that about 17% of the dwellings have neither inside bathroom nor inside toilet.

Main ethnic and religious groups

Practically all (98%) of the population are Roman Catholics and 99.9% are Austrian citizens. There are no problems of ethnic or religious minorities in Mistelbach.

Indicators of social stability

Apart from the rather large decrease in the population due to the weakness of the local economy, there are no signs of any reduction in social stability or of social disintegration in the county of Mistelbach.

The suicide rate per 100 000 population of the same sex was 35.9 for males and 12.0 for females in 1969–1973 as compared with 35.3 for males and 14.5 for females in Lower Austria. The level of criminality is similar to that of other predominantly rural areas of Austria.

Health and welfare system

Health services

In Austria, more than 98% of the population are covered by one or other form of the three social security schemes (health, accidents and pensions) and are entitled to outpatient and inpatient medical care virtually free of charge from doctors and hospitals under contract to the social security system. Outpatient medical care is provided mainly by a network of doctors working in individual practices. On 31 December 1977, there were 5524 general practitioners and 6099 consultants in Austria, corresponding to ratios of 1361 inhabitants per general practitioner and 1233 inhabitants per consultant. In the district of Mistelbach, as in all the rural areas of Austria, there is a general lack of doctors and a relative lack of consultants. On 31 December 1977, there were 42 general practitioners and 14 consultants working in the district (1703 inhabitants per general practitioner and 5108 inhabitants per consultant (1977 population estimate); Lower Austria: 1626 inhabitants per practitioner, 3443 inhabitants per consultant). There is one general hospital in the district, located in the town of Mistelbach. It has 432 beds (6.04 per 1000 inhabitants; Lower Austria, 9.6 per 1000 inhabitants; Austria, 10.8 per 1000 inhabitants) and has departments of surgery, medicine, gynaecology and obstetrics, paediatrics, ophthalmology and otorhinolaryngology, urology, radiology and anaesthesiology.

The general health situation

In Mistelbach, both the infant mortality rate (27.3 per 1000 live births) and the mortality rate (1621.9 per 100 000 population) are higher than for Lower Austria and Austria. Life expectancy at birth for males is higher in Austria (66.7 years) than in Lower Austria (66.0 years), but the same for females (73.7 years).

The leading causes of death for males are malignant and cerebrovascular diseases, followed by accidents; for females, cerebrovascular diseases, malignant disease and chronic ischaemic heart disease. These are the same as in Lower Austria and Austria.

Mental health services

Existing facilities

Since July 1976, a neuropsychiatrist has been working in private practice in the town of Mistelbach. Up to that time, virtually no outpatient neuropsychiatric care was available in the district of Mistelbach, apart from that provided by a psychiatrist who, many years ago, visited the town of Mistelbach once or twice a week, so that people had to go to Vienna if they needed this type of care.

Lower Austria has two psychiatric hospitals. The district of Mistelbach belongs to the catchment area of the Niederösterreichische Landeskrankenhaus für Psychiatrie und Neurologie in Klosterneuburg, a few miles to the north of Vienna on the right bank of the Danube. Its total catchment area has 793 813 inhabitants and consists of the eastern part of Lower Austria. On 1 May 1977, it had 947 beds (1.3 beds per 1000 inhabitants). Of all resident patients, 83 were from the county of Mistelbach.

In 1975, this psychiatric hospital acquired a new director, who since then has been very active in the development of community psychiatric services. The creation in 1977 of the psychosocial service (Psychosozialer Dienst) for Mistelbach was one of the first steps in this direction. The task of this service is to provide outpatient care for patients discharged from the hospital in Klosterneuburg. The staff consists of a full-time social worker and a part-time psychiatrist, who see patients in their office in Mistelbach twice a week but whose main task is to make home visits.

In January 1979, a hostel for 20 patients and in October 1979, a day centre were opened in Mistelbach. These are not included in the patient census carried out so far, as this census relates to the services existing in 1977.

As all the data in this chapter are necessarily for the year 1977, when the detailed census was carried out and the cohort study started, it should be noted that the situation is now (1983) very different. The number of occupied beds for the total catchment area has fallen from 947 in 1977 to below 500 (0.63 beds per 1000 inhabitants). The structure of the psychiatric hospital has also completely changed. A new building was opened in October 1982, and all new patients are admitted on a strictly sectorized basis, i.e., patients from a certain district, such as the county of Mistelbach, are always admitted to the same ward where they always see the same doctor, who is, in fact, the doctor working in the Psychosozialer Dienst in that district. Thus, continuity of care is guaranteed.

Services available to the area

The services located within the pilot area and providing service to it are shown in Table 3.

In addition, the Niederösterreichisches Landeskrankenhaus für Psychiatrie und Neurologie, under the authority of the Government of Lower Austria, although located outside the pilot area, provides inpatient services to it.

Table 3. Services located within the pilot area and providing service to it

Name of service	Responsible authority	Type of service
Private psychiatrist (since July 1976)	—	Outpatient
Psychosozialer Dienst (since May 1977)	Government of Lower Austria	Outpatient Home visits
Richmond-House (since January 1979)	Richmond Fellowship Austria (since 1983 Psychosoziales Zentrum)	Hostel
Day centre (since September 1979)	Psychosoziales Zentrum	Day patient

Patient census and cohort study

Patient census

It was decided to choose 1977 as the reference year for the census and for the beginning of a retrospective cohort study. This decision was facilitated by the fact that all three relevant psychiatric services (psychiatric hospital, private psychiatrist and psychosocial service) already had computerized record systems in 1977. The inpatient census was therefore carried out retrospectively on 1 May 1977 in the psychiatric hospital; the outpatient census was carried out on the first 500 consecutive new patients of the private psychiatrist. The outpatient census of the psychosocial service, like the outpatient census of the private psychiatrist, began on 1 May 1977 and was carried out retrospectively on the first 209 patients.

Data for inpatients and outpatients are not directly comparable, but the two outpatient services are. The most striking difference is in the diagnostic spectrum of patients attending the psychiatrist in private practice and the psychosocial service respectively. Nearly half the patients seen in private practice suffer from neurosis and personality disorders and another 20 % have affective psychoses. The main diagnosis in the psychosocial service is schizophrenia (48 %), followed by addictions (26 %) and neurosis and personality disorders (23 %). Of the inpatients (83), 64 % were males and 36 % were females. Of the males, 62 % were single and 26 % were married, while for the females 37 % were single, 23 % were married, 27 % were widowed and 13 % were divorced. Other data are as follows. Age: 34 % were 25–44 years (36 % of the males and 30 % of the females), 28 % were 45–64 years (19 % of the males and 43 % of the females), 23 % were under 25 years (30 % of the males and 10 % of the females), and 16 % were 65 years or over (15 % of the males and 17 % of the females). Length of stay: 82 % had stayed two months or more (83 % of the males and 80 % of the females), all the females had stayed two years or more, while 14 % of the males had stayed for shorter periods. Diagnosis: 29 % were mentally retarded (34 % of the males and 20 % of the females), 24 % were schizophrenics (19 % of the males and 33 % of the females), 21 % had organic psychoses (19 % of the males and 23 % of the females), and 19 % of the males were alcoholics.

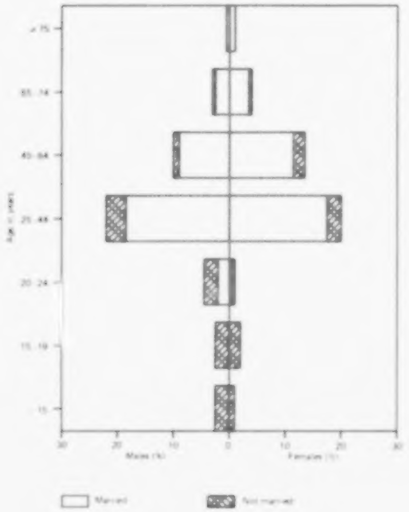
Of the outpatients attending the practice of the private psychiatrist, 209 (42 %) were males and 291 (58 %) were females, 35 % were 25–44 years (33 % of the males and 36 % of the females), 30 % were 45–64 years (26 % of the males and 33 % of the females), 23 % were 24 years or younger (31 % of the males and 17 % of the females), and 12 % were 65 years or over (10 % of the males and 14 % of the females). Nearly two-thirds were married (60 % of the males and 70 % of the females), 35 % of the males were single, as compared to 16 % of the females, of whom 13 % were widowed. Nearly half (242 or 48 %) had neurosis or personality disorders (34 % of the males and 59 % of the females), 17 % were addicted (35 % of the males and 3 % of the females), and 19 % had affective psychoses (13 % of the males and 24 % of the females).

Of the outpatients of the psychosocial service in Mistelbach, 78 (37 %) were males and 131 (63 %) were females. Other data are as follows. Age: 47 % were 25–44 years (54 % of the males and 43 % of the females), 25 % were 45–64 years (23 % of the males and 26 % of the females), 21 % were 24 years or younger (17 % of the males and 24 % of the females), 4 % were 65 years or over (3 % of the males and 5 % of the females), and for 3 % the age was not known. Marital status: 42 % were married (47 % of the males and 38 % of the females), 41 % were single (47 % of the males and 37 % of the females), 12 % of the females were divorced, and 6 % were widowed. The corresponding figures for the males were 1 % divorced and 3 % widowed. Diagnosis: 48 % were schizophrenics (41 % of the males and 52 % of the females), 26 % were addicted (46 % of the males and 15 % of the females), and 23 % had neurosis or personality disorders (15 % of the males and 29 % of the females).

Cohort study

When the intake into the cohort study started on 1 May 1977, three different psychiatric services were available for the population of the Mistelbach pilot study area: the psychiatric hospital of Klosterneuburg, some 40 miles away from the town of Mistelbach, a privately practising neuropsychiatrist and a publicly funded psychosocial service, both the latter in the town of Mistelbach. Other services, such as a day centre

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 200) (See also Table C1)



and a hostel, have been added since but could not be included in the 1977 cohort.

The Mistelbach patient cohort consists of the first 200 consecutive patients who entered either the psychiatric hospital of Klosterneuburg or the surgery of the privately practising neuropsychiatrist after 1 May 1977. The psychosocial service has no right to take patients "off the street" and can care only for patients referred either by the psychiatric hospital or by the neuropsychiatrist. The psychosocial service was therefore included under patient follow-up, although it does not count as an intake service.

Tables C1 and C2 and Fig. C1 and C2 contain data on the age, sex, marital status and diagnosis of the patients in the cohort. A slight predominance of female patients (52%) can be seen. More than two-thirds (70.5%) were 25–64 years, 14.5% were 65 years or over, and 19% were 24 years or younger, while 42% had neurosis, 15% were addicted, 12% had

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 200) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	>85	
Single	M	2.5	2.5	2.5	3.5	1.0	0.5			12.5
	F	1.0	2.0	0.5	2.5	2.0	0.5			8.5
Total		3.5	4.5	3.0	6.0	3.0	1.0			21.0
Married	M			2.0	18.5	9.0	2.5	0.5		32.5
	F			0.5	17.5	11.5	3.5	1.0		34.0
Total				2.5	36.0	20.5	6.0	1.5		66.5
Widowed	M						1.0	0.5		1.5
	F				0.5	2.0	3.5	1.0		7.0
Total					0.5	2.0	3.5	1.0		8.5
Divorced/ separated	M				1.0					1.0
	F					1.5				1.5
Total					1.0	1.5				2.5
Not known	M	0.5								0.5
	F	0.5		0.5						1.0
Total		1.0		0.5						1.5
Total	M	3.0	2.5	4.5	23.0	10.0	4.0	1.0		48.0
	F	1.5	2.0	1.5	20.5	17.0	7.5	2.0		52.0
Grand total		4.5	4.5	6.0	43.5	27.0	11.5	3.0		100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		< 25	25–44	45–64	≥ 65	
Organic psychoses	M	1	7	6	3	17
	F		2	1	4	7
Total		1	9	7	7	24
Schizophrenia and paranoid states	M		2			2
	F		2	6	1	9
Total			4	6	1	11
Affective psychoses	M		1	1	2	4
	F	1	1	9	7	18
Total		1	2	10	9	22
Other psychoses	M					
	F			2	1	3
Total				2	1	3
Neurosis and personality disorders	M	8	12	6	1	27
	F	7	29	16	5	57
Total		15	41	22	6	84
Alcohol and drug dependence	M	1	19	5	3	28
	F		2			2
Total		1	21	5	5	30
Mental retardation	M	10	5	1	1	17
	F	2	3		1	6
Total		12	8	1	2	23
Other	M					
	F					
Total						
No psychiatric diagnosis	M			1		1
	F		2			2
Total			2	1		3
Total	M	20	46	20	10	96
	F	10	41	34	19	104
Grand total		30	87	54	29	200

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

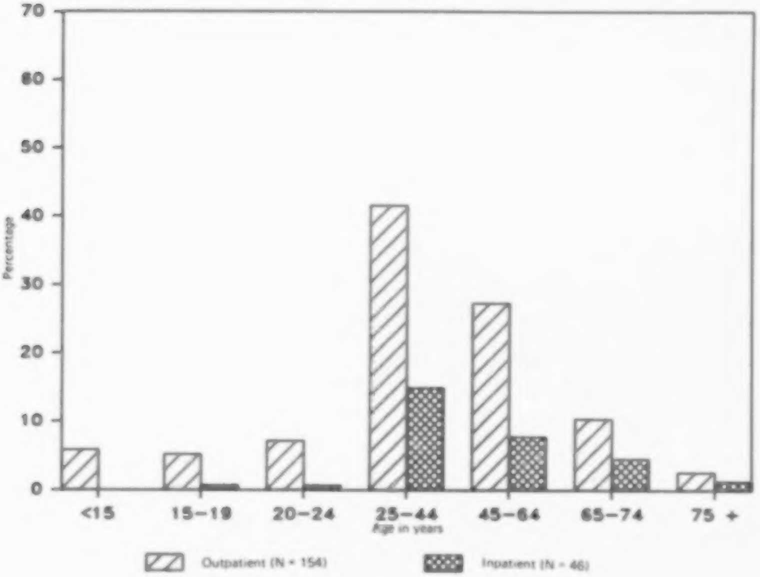


Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	96	66.7	33.3
Females	104	86.5	13.5
Total	200	77.0	23.0

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	<15	15-19	20-24	25-44	45-64	65-74	75-84	≥85	
Outpatient	9	8	11	64	42	16	4		154
Inpatient		1	1	23	12	7	2		46
Total	9	9	12	87	54	23	6		200

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	7	3	21	2	83	17	18		3		154
Inpatient	17	8	1	1	1	13	5				46
Total	24	11	22	3	84	30	23		3		200

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

organic psychoses, 11.5% were mentally retarded, 11% had affective psychoses, and 5.5% had schizophrenia.

Types of contact at first entry

Approximately three-quarters of the patients were outpatients on intake, and a quarter were admitted to the psychiatric hospital. Some characteristics of the study population can be explained by the relative proportions of inpatients and outpatients.

The relatively high proportion of married patients (two-thirds of the total cohort) and the relatively small portion of single patients (one-fifth) is partly due to the relatively small number of schizophrenic patients in the total cohort, which is in turn a consequence of the preponderance of outpatients, i.e., patients of the privately practising neuropsychiatrist, in the total cohort. Three-quarters of all patients contacting the neuropsychiatrist had a diagnosis of an emotional or affective disorder, and there were only very few schizophrenic patients.

There is a high proportion of alcoholics in the inpatient part of the cohort—more than 28% of all inpatients—due to the fact that the pilot study area is located in a wine-producing region (the *Weinviertel*). Most are placed in the corresponding diagnostic category, but in addition a substantial number are included in that of "organic psychosis" (delirium tremens).

Types of contact during the first year

Table C6 shows that 72% of the cohort received outpatient care only, 20% of the cohort had only one outpatient contact, and 31% had outpatient care less than once every two weeks for more than three

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6	7	1-5	6-7	
Organic psychoses	4		4			71	21	8	92	24
Schizophrenia and paranoid states				18		27	55	18	82	11
Affective psychoses	23	4	4	55			14	86	14	22
Other psychoses	33			33		33		67	33	3
Neurosis and personality disorders	26	14	17	42		1		99	1	84
Alcohol and drug dependence	20	10	7	10	7	33	13	53	47	30
Mental retardation	17	13	4	35		13	17	70	30	23
Other										
No psychiatric diagnosis	33	33		33				100	0	3
Total	20	10	10	31	1	18	11	72	28	200

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

months. Of those patients receiving inpatient and outpatient care, the majority were diagnosed as having organic psychoses (22 patients), addiction (alcoholics) (14 patients), schizophrenia (9 patients) or mental retardation (7 patients).

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that 52% of the cohort received only short outpatient care and that 4.5% of the cohort became chronic users (mainly schizophrenics). After 90 days, 44% of the cohort (46% of outpatients and 35% of inpatients) had no further contact with the services, and after 18 months two-thirds were no longer in contact with the services.

Data from a supplementary study carried out simultaneously on a cohort of inpatients showed that up to 90% of the original sample of patients had contact with a general practitioner within two years after discharge. In a rural area, therefore, the general practitioner seems to play a major role in the care of psychiatric patients. This fact must be taken into consideration when interpreting tabulated data on the utilization of services (e.g., percentage with no more contact after . . . days).

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	29	37	45	53	53	70	78	24
Schizophrenia and paranoid states	0	0	0	9	9	27	27	11
Affective psychoses	27	27	32	32	41	46	46	22
Other psychoses	33	33	33	33	33	33	100	3
Neurosis and personality disorders	29	39	47	52	58	63	70	84
Alcohol and drug dependence	20	30	37	40	43	56	66	30
Mental retardation	17	21	30	39	61	70	79	23
Other								
No psychiatric diagnosis	33	33	33	33	33	67	100	3
Not known								
Total	25	32	39	44	50	59	67	200

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

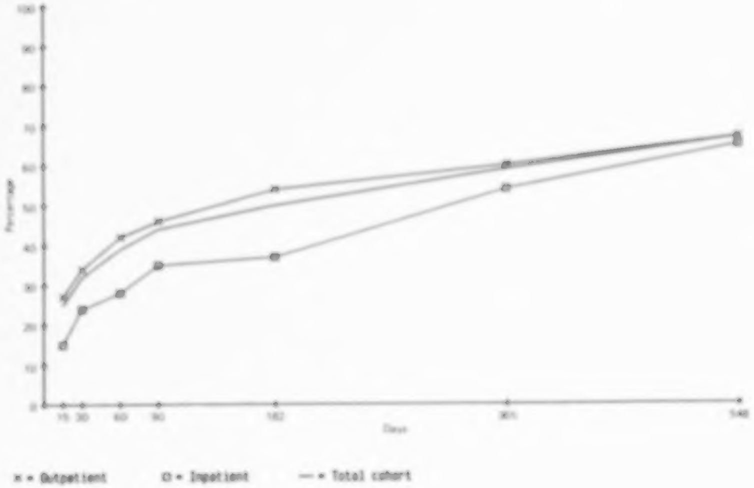


Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	8.3		54.2	33.3		4.2			24
Schizophrenia and paranoid states	18.2			18.2		18.2	45.5		11
Affective psychoses	50.0	31.8				4.5	9.1	4.5	22
Other psychoses	33.3	33.3		33.3					3
Neurosis and personality disorders	73.8	25.0	1.2						84
Alcohol and drug dependence	36.7	16.7	30.0	10.0		3.3	3.3		30
Mental retardation	56.5	13.0	13.0	8.7		4.3	4.3		23
No psychiatric diagnosis	67.7	33.3							3
Total	52.0	19.0	13.0	8.0		3.0	4.5	0.5	200

[a] Episodes of care:

1 – **Outpatient, short**
Some outpatient contacts, but no "long episode", i.e. comprising six contacts or more

2 – **Outpatient, medium or long but not chronic**
One or two long episodes and some isolated outpatient contacts. The different types of long episodes are characterized by the following averages:

	Type 1	*Type 2*
Number of events	16	11
Length	470 days	161 days
Average interval between two events	34 days	17 days
Maximum interval	67 days	48 days
Concentration	0.29	0.43

3 – **Inpatient, short**
One "stay" in hospital, of less than 40 days (some isolated outpatient contacts); or
several stays in hospital: each length of stay does not exceed 11 days

4 – **Inpatient, medium or long but not chronic**
One stay in hospital, between 40 and 215 days, or | plus some isolated outpatient contacts
several stays in hospital: between 20 and 215 days |

5 – **Mixed types of care, short**
No patient

6 – **Mixed types of care, medium or long but not chronic**
One or more stays in hospital *and* one or more long outpatient episodes. The length of the stays does not exceed 90 days. The long episodes belong to the two types described above (see 2). Some isolated outpatient contacts

7 – **Chronic**
Several stays in hospital: the total length exceeds 700 days; or
several stays and outpatient episodes: the time intervals without care do not exceed 140 days

8 – **Not classified elsewhere**
The last "contact" with the hospital is an admission during the two-year follow-up period. The date of this admission is not close to the boundaries of the observation period

Caseload features

Table C9 shows clearly that the heaviest burden is imposed on the services within the first two weeks following the entry of the patients. Measured in number of contacts per beds occupied per week per 100 patients, there is a sharp decline within the first month followed by a steady decline over the remainder of the two-year follow-up period.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients	
	1	2	1 + 2	Outpatient	Beds
0-15	152	46	2	48.3	21.2
16-30	52	35	0	13.6	14.1
31-60	63	21	1	11.2	7.9
61-90	50	14	5	9.1	6.3
91-182	62	13	6	5.6	4.1
183-365	59	13	8	4.5	3.3
366-548	59	5	4	4.6	2.3
549-730	57	7	2	3.8	1.7
First year	143	32	25	7.9	5.3
Second year	69	7	6	4.2	1.7
First and second year	142	26	32	6.0	3.6

[a] These three columns show the actual number of patients receiving care in the successive periods 1 = outpatient care, 2 = day and/or night and/or inpatient care, 1 + 2 = mixed care

Brussels, Belgium

The pilot study area

General and geographical information

The study dealt with the communes of Anderlecht and Schaerbeek in the Brussels urban area. These two communes were selected because of the contrasts between their psychiatric services.

Both communes are highly urbanized and densely populated (they were among the largest in Belgium before the recent merger of communes). In 1981, Anderlecht had a population of 94 764 (103 796 in 1971) and Schaerbeek a population of 106 754 (118 951 in 1970).[a]

The decrease in population is probably attributable to migration of young, better off Belgian couples to less crowded communes in the suburbs. Anderlecht had a population density of 5035.37 per km^2 and Schaerbeek one of 13 302.36 per km^2. By way of comparison, the population density of the Brussels urban area was 6182.42 per km^2 and that of Belgium as a whole 323.19 per km^2.[a]

Sociodemographic profile

Population

Tables 1 and 2 give a breakdown of the population of the two communes by age, sex and marital status.[b] The age distributions were similar in the two communes and the sex distributions identical (47% men and 53% women in both). In Anderlecht, 18% of the population was under 14 years and 17.5% over 65 years; in Schaerbeek, the proportions were 21% and 17%. Other figures for the adult population of Anderlecht (Schaerbeek) were 10% (13%) single, 6% (8%) divorced, 14% (14%) widowed and 70% (65%) married.

When the figures for 1970 and 1980 are compared, the distribution by age-groups does not vary greatly. The 25–44-year age-group decreased in both communes, namely from 31.65% in 1970 to 26% in 1980 in Schaerbeek and from 27% in 1970 to 25% in 1980 in Anderlecht. There was a greater variation in the more extreme age-groups in Anderlecht

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[a] Institut national de Statistique, 1981.

[b] Institut national de Statistique, 1980.

Table 1. Population by sex, age and marital status: Anderlecht

Sex	Age (years)	Marital status				Total	Number	Percentage
		Single	Married[a]	Widowed	Divorced			
Males	0–14	8 499	—	—	—	8 499	16 700	18
Females		8 201	—	—	—	8 201		
Males	15–24	6 053	932	3	12	7 000	13 791	14.5
Females		4 841	1 894	5	51	6 791		
Males	25–44	2 262	8 799	62	716	11 839	23 687	25
Females		1 505	9 188	175	980	11 848		
Males	45–64	806	9 700	372	659	11 537	23 972	25
Females		745	9 208	1 564	918	12 435		
Males	65 +	270	4 431	1 252	217	6 170	16 614	17.5
Females		579	3 655	5 762	448	10 444		
Males	Total	17 890	23 862	1 689	1 604	45 045	94 764	
Females		15 871	23 945	7 506	2 397	49 719		

[a] The "married" category also includes legally separated couples.

Table 2. Population by sex, age and marital status: Schaerbeek

Sex	Age (years)	Marital status				Total	Number	Percentage
		Single	Married[a]	Widowed	Divorced			
Males	0–14	11 346	—	—	—	11 346	22 180	21
Females		10 834	—	—	—	10 834		
Males	15–24	6 735	1 037	1	4	7 777	15 667	15
Females		5 526	2 322	6	36	7 890		
Males	25–44	3 181	9 757	49	732	13 719	27 327	26
Females		2 368	10 026	191	1 023	13 608		
Males	45–64	953	9 006	338	757	11 054	23 435	22
Females		1 311	8 371	1 589	1 110	12 381		
Males	65 +	423	4 294	1 232	296	6 245	18 145	17
Females		1 266	3 434	6 497	703	11 900		
Males	Total	22 638	24 094	1 620	1 789	50 141	106 754	
Females		21 305	24 153	8 283	2 872	56 613		

[a] The "married" category also includes legally separated couples.

than in Schaerbeek: the 0–14-year age-group fell by 2% in Anderlecht and rose by 0.74% in Schaerbeek, while the 65 years or over age-group rose by 2.5% in Anderlecht and by 0.99% in Schaerbeek between 1970 and 1980.

Employment and main economic activities

Data on the numbers employed in the various sectors are given in Table 3. Unemployment rose sharply in both communes (the rate for the country as a whole was 12.2% of the active population in October 1982). The figures were very similar for the two communes and not very different from those for Bruxelles-Capitale, and all three have a high proportion of inactive population. Other data on the employment situation are as follows:

Inactive population
(as a percentage of the total population)

Anderlecht: 55% (37% men and 63% women)
Schaerbeek: 58% (36% men and 64% women)
Bruxelles-Capitale: 58%
Belgium: 62%

Table 3. Employment situation in the pilot study area

Sector	Number of persons employed in:		
	Anderlecht	Schaerbeek	Bruxelles-Capitale
Agriculture, forestry and fisheries	148	31	762
Energy and water supply	515	543	5579
Extraction and processing of non-energy-producing minerals and various derivatives	1693	1493	14842
Chemical industry			
Processing of metals (precision mechanics)	4194	2567	26993
Other manufacturing industries	8519	4397	46080
Construction and civil engineering	2557	2853	23921
Trade, catering and hotels (repairs)	10086	10087	97350
Transport and communications	2643	3267	25564
Finance, insurance, services to companies, rental/housing industry	3521	3760	41705
Other services	8685	11495	114753
Ill-defined activities	2571	7935	48124
Total active population	45132	48428	445673

Source: *Recensement de Population 1970*. Brussels, Institut national de Statistique, 1974, pp. 200–201.

Active population including unemployed and members of the armed forces
(as a percentage of the total population)

Anderlecht: 45 % (63 % men and 37 % women)
Schaerbeek: 41 % (63 % men and 37 % women)
Bruxelles-Capitale: 42 %
Belgium: 38 %

Employed active population
(as a percentage of the total population)

Anderlecht: 44 % (63 % men and 37 % women)
Schaerbeek: 41 % (63 % men and 37 % women)

Unemployed
(as a percentage of the active population)

Anderlecht: 1.8 % (57 % men — total number 2632 in September 1982; and 43 % women—total number 2522 in September 1982)
Schaerbeek: 2 % (56 % men—total number 3022 in September 1982, and 44 % women—total number 2604 in September 1982)
Bruxelles-Capitale: 1.7 %
Belgium: 2.2 %

The figures for Anderlecht in Table 3 must be increased by 158 (hotel workers who were not counted earlier; no breakdown by sex) (data supplied by the unemployment office of the commune).

Population distribution and housing

At the end of the last century, Schaerbeek and Anderlecht were still isolated villages outside Brussels. The period of urban expansion started around 1860; walls and fences were levelled, the toll was discontinued and gradually the land between the towns was built up. Between 1895 and 1970, housing units increased from 2400 to 50 288 in Schaerbeek and from 2060 to 42 699 in Anderlecht. The outlying third of Anderlecht commune is still not very densely populated, although this area cannot be termed "rural" since it contains numerous stretches of motorway, sports grounds and other public facilities that are slowly but surely eating into the last pockets of countryside.

Anderlecht.[a] In 1970 there were 42 699 housing units, of which 27 % were owner-occupied. On average, there were 3.93 rooms and 2.42 persons per unit, representing 1.6 rooms or 23.9 m^2 per person, while 40 % of the housing had modern amenities, i.e. running water and individual toilet and bath or shower plus central or other form of heating, as compared with 44 % for the Brussels urban area; 6 % did not have a piped water supply.

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[a] **Source**: *Recensement de la population*. Brussels, Institut national de Statistique, 1980.

The overall figures do not give an accurate idea of the variation in housing in the different parts of the commune. There is a densely populated urban nucleus that has grown up around former villages which have developed in different ways. The centre of this area, where the main psychiatric services are located, has become a lively commercial centre and is quite a good example of urban renewal. On the other hand, the housing in the former village of Cureghem, which contains the main abattoirs of Brussels, is dilapidated and decaying. It is in this area, not far from the Gare du Midi, that most of the immigrant population of the commune has settled. Account must be taken of these local differences in describing the housing situation. It will be possible to provide a more accurate description once the data from the 1980 census are available.

Generally speaking, the figures for most housing indicators are slightly below the average for the Brussels urban area, but at present they are too broad in scope and will not be of much value until they can be broken down by district through more detailed analysis.

Schaerbeek.[a] The currently available data for this commune, where the influx of immigrants is among the highest in the Brussels urban area, are subject to even stronger reservations. In 1978, the commune had 50 298 housing units similar to those in Anderlecht (31 % with modern amenities, an average of 4.09 rooms and 2.35 persons per unit, representing 1.71 rooms or 25.8 m^2 per person); 19 % of the housing did not have a piped water supply.

As in the case of Anderlecht, data broken down by district would show a variation that does not emerge from the aggregate figures. The tendency for nationals to be replaced by immigrants is strongest in the north-west sector around the Gare du Nord. There is a strong correlation at the lowest level between the indicators for housing, income, level of education and occupation. In 1970, 12 % of the population were self-employed, but small businesses have increasingly been taken over by immigrants.

The former village of Helmet is another hub of community life organized around the church and a sort of central square. This area is fairly heterogeneous socially, comprising both middle-class housing and small single-family houses occupied by Belgian white collar and manual workers. At present, second-generation immigrants are moving into the area.

Apart from a few pockets of older housing, the southern sector of the commune contains well-equipped housing occupied by a high percentage of professionals, often university educated.

Finally, in the central district along the Maelbeek valley, most of the housing is older, although in much better condition than that in the north of the commune, and older Belgian residents can at present be found living alongside second-generation immigrants.

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[a] **Source**: *Recensement de la population*. Brussels, Institut National de Statistique, 1980; and survey of Schaerbeek carried out by a non-profit-making association (ASBL).

Main ethnic and religious groups

In Bruxelles-Capitale, the foreign population increased from 18% in 1979 to 23% in 1980 and 24% in 1981 (53% men and 47% women). The proportion of foreigners was estimated to be 25% (22961) in Anderlecht in 1982 and 35% (36296) in Schaerbeek in 1981.

Indicators of social stability

It was not possible to obtain data for these indicators by consulting the police and local authorities. Personal observations in the field, however, showed that in Schaerbeek, for example, problems of delinquency, drug dependence and prostitution had been increasing significantly for a number of years and were considered high priorities by social workers.

Data from official sources are available only for the country as a whole.

The suicide rates per 1000 population by age-group and sex were as shown in Table 4.

Table 4. Suicide rates per 1000 population, by age-group and sex

Year	Sex	Age group (years)					
		0–14	15–24	25–44	45–64	65+	Total
1978	Men	0.01	0.17	0.29	0.52	0.92	0.28
	Women	0.00	0.07	0.21	0.24	0.24	0.14
1980	Men	0.00	0.21	0.35	0.50	0.85	0.28
	Women	0.00	0.08	0.19	0.33	0.29	0.16

Source: *Annuaire statistique de la Santé publique.* Brussels, Ministère de la Santé publique et de la Famille, 1980, pp. 90–93.

The percentage of divorces rose in both communes between 1970 and 1980: from 2.5% to 4.2% in Anderlecht and from 3.0% to 5.5% in Schaerbeek. The proportion of minors (7.2% of the population) taken to court in the country as a whole was 3.6% in 1976.[a] On 1 October 1980, the total prison population of the country was 4657 (756 in Brussels).[b]

In 1976, there were 0.009 homicides per 1000 population (0.012 per 1000 population in 1972) in the country as a whole. Annual consumption of alcohol per person per year in the country as a whole increased between 1972 and 1980 for both spirits (from 1.59 to 2.37

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[a] *Statistiques judiciaires 1976.* Brussels, Ministère de la Justice, 1980.

[b] *Bulletin de l'Administration pénitentiaire.* Brussels, Ministère de la Justice, 7 September 1980.

litres) and wine (from 15.6 to 20.6 litres), while the consumption of beer decreased slightly (from 133.5 to 131.3 litres).

Health and welfare system

Health services[a]

There does not appear to be any difference between the health services of the two communes and those in any other part of Brussels. Thus, a full range of resources is available, from private practitioners to outpatient departments of polyclinics and hospitals.

It is recognized that the capacity of hospital facilities is currently in excess of requirements. While the planned capacity was eight beds per 1000 population for the country as a whole, it was actually 9.37 per 1000 population in January 1981, representing a surplus of 1.37. It should be noted that the planned capacity was in any case higher than the figure recommended by WHO to meet the needs of a population of this size. The reason for this excess capacity is that the planning has to take account of political and religious considerations that require the establishment of four separate systems of institutions (Dutch-speaking, French-speaking, catholic and without religious affiliation).

The total number of hospitals has continued to grow, particularly as a result of an increase in the number of geriatric units within general hospitals. These units are treated as separate facilities, thereby distorting the figures to some extent.

The number of beds for acute cases in non-psychiatric institutions, e.g. general hospitals and independent maternity centres, admitting patients in the acute phase of illness, has increased by 8061 since 1971. The plan to reduce the number of beds for acute cases in parallel with the introduction of geriatric sector services, has therefore not been successful.

Average occupancy has also increased in the sector services for acute cases and in Brussels rose from 72.66 % in 1979 to 79.12 % in 1980. At the same time, particularly as a result of the closure of several small hospitals, the number of institutions dealing with acute cases has decreased each year since 1972. At present, 40.07 % of beds for acute cases are in state institutions and 59.93 % in private institutions. By comparison, 63.45 % of beds for geriatric cases are in state institutions—a situation that is partly due to the work of the social service centres (CPAS).

On 1 January 1981, Schaerbeek had four hospitals with 730 beds, i.e. seven per 1000 population, and Anderlecht had five hospitals with 1033 beds, i.e. ten per 1000 population.

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[a] **Source**: *Premiers et principaux résultats statistiques de l'enquête dans les établissements de soins. Situation au 1.1.81.* Brussels, Ministère de la Santé publique et de la Famille, 1981.

It is of interest to note that Anderlecht, which has had a teaching hospital since 1977, has a significantly greater excess bed capacity than Schaerbeek, which would tend to suggest that it is the presence of recently established university facilities, whose planning is not subject to the hospital regulations, that increases the ratio of beds to population.

The above-mentioned institutions in each of the communes include one that is supervised by a public social service centre, i.e. the communal administration. These two institutions (the P. Brien and J. Bracops hospitals) are obliged to provide care to any patient who comes to them. This obligation influences the admissions policy and the medical practice of the institutions. Each has attached to it an institution for the elderly, the handicapped and the chronically ill (Raoût and van Helmont centres).

The two communes also have a number of polyclinics and outpatient services grouped together in health centres. Reference will be made to at least two in each commune. All include a psychiatric unit.

The general health situation

The infant mortality rates[a] for the Brussels urban area in 1981 were 15.27 per 1000 population for boys (15.45 per 1000 in Belgium) and 13.81 per 1000 population (13.59 per 1000) for girls. The corresponding life expectancy rates were 68.94 years (63.13 years) for men and 73.25 years (75.88 years) for women.

The five leading causes of death[b] in Belgium in 1976 were:

	Men	*Women*	*Total*
Malignant neoplasms including neoplasms of the lymphatic and haematopoietic system	14 145	10 571	24 727
Ischaemic heart disease	10 768	6929	17 697
Cerebrovascular disease	6640	8600	15 240
Other heart disease	5545	6089	11 634
Accidents (motor vehicle traffic and other)	3355	2579	5934

Mental health services

As far as Belgium as a whole is concerned, there has been a continuous reduction in the number of psychiatric beds. This is partly due to "compulsory programming" and partly to the establishment of neuropsychiatric observation and treatment units within the sector services for acute cases.

The average bed occupancy in such services has also fallen in Belgium as a whole, e.g. from 92.73% in 1970 to 91.28% in 1980. This trend is particularly marked in the traditional services. Brussels has the lowest proportion of beds per 1000 population: 0.94 compared with 2.95 in the Flemish part of the country and 2.05 in Wallonia.

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[a] *Statistiques démographiques*. Brussels, Institut national de Statistique, 1981.

[b] *Annuaire statistique de la Belgique, Vol. 100*. Brussels, Institut national de Statistique, 1980, pp. 98–99.

The private sector accounted for 78.72% of the psychiatric beds.

The two communes were chosen because of the differences between their psychiatric services. It was felt that the comparison of two relatively well differentiated "models" would provide good study material.

However, when the facilities in each commune are considered, it is important to bear in mind that patients are not necessarily referred to hospital on the basis of the commune to which they belong. The admission of a patient to a psychiatric facility in Brussels depends, in fact, on a number of factors (availability, distribution of specialist knowledge, etc.), of which the geographic origin of the patient is only one.

For this reason, it was decided to register the patients from the communes in question who were being treated in all the different psychiatric hospitals in Brussels. However, as some of these institutions refused to take part in the survey, it had to be restricted to patients registered in those that did agree to collaborate. Information on the various institutions is given in Table 5.

Table 5. Main psychiatric institutions in the Brussels area, according to numbers of beds and staff

Institution	Number of beds	Staff
1. *State*		
Brugman Hospital[a] (psychiatric department)	110	
Le Domaine[b]	140	33 nurses, 4 physicians, 1 psychologist
2. *Private*		
Erasme Hospital[c] (psychiatric department)	90	51 nurses, 11 physicians, 1 psychologist
Clinics:		
Fond'Roy (refused)	150	27 nurses, 5 physicians, 2 psychologists
La Ramée (refused)	70	22 nurses, 34 physicians, 1 psychologist
Beau Soleil[d] —	40	—
Sanatia (refused)	70	25 nurses, 5 physicians, 1 psychologist
St Michel (refused)	57	27 nurses, 3 physicians, 1 psychologist
Titeca[e] —	280	55 nurses, 10 physicians, 2 psychologists
Sans Souci (refused)	145	32 nurses, 3 physicians, 2 psychologists

[a] See item 4 of Table 6.
[b] See item 6 of Table 6.
[c] See item 3 of Table 6; in Anderlecht.
[d] See item 7 of Table 6; insolvent.
[e] See item 5 of Table 6; in Schaerbeek.

Although all the state hospitals agreed to participate in the survey, only one private clinic—fortunately the largest—did so.

An estimate is currently being made of the number of patients in the pilot study area who could not be included in the survey, so as to determine how far the sample can be considered as representative.

Apart from the inpatient facilities, a number of other services also operate in the two communes, and are described below.

Anderlecht

In the commune itself, there are:

—a 90-bed psychiatric inpatient department in Erasme Hospital (item 3 of Table 6);
—two psychiatric outpatient units in St Anne Clinic and J. Bracops General Hospital (item 2 of Table 6);
—two outpatient units in polyclinics;
—a mental health centre with both inpatient and outpatient facilities.

Apart from Erasme Hospital, the services have been organized on the sector system. The outpatient service, one of the first in Belgium (it has been in existence for more than 20 years), is supposed to serve as the "centre of gravity" of the network. The main features of this model are as follows: (1) it is a public service open to the whole community, thereby removing any financial obstacle to care; (2) there is continuity of care for the patient through all the stages from prevention to aftercare; (3) psychiatric care is separately organized in the form of individual services based on close coordination of medical and welfare interventions. It is these factors that influence the form of service and its links with the environment.

This is one of the few places in Belgium where an on-call psychiatric service operates in conjunction with a general hospital, the duties being shared by the hospital and the sector physicians.[a] The staff of the sector service consists of a physician in charge, six other physicians providing 4–8 hours of service per week in addition to emergency work, two psychologists, two social workers and a secretary. The activities consist mainly of consultations provided by the different staff members. "Preventive" activities are not well developed. To ensure continuity of care, all interventions are carefully recorded and the staff keep themselves reasonably well informed about admissions to hospital. It should be noted that these features should facilitate the performance of a longitudinal study of the type that it is planned to carry out.

In addition, the attempt to develop a specifically psychiatric approach has led the service to concentrate on "intra" rather than "extra" psychiatric facilities: day hospital, night hospital, pre-employment centre, etc., between which there are numerous contacts. These are grouped together into a non-profit making association (ASBL) known as "l'Equipe". Each unit is staffed by a psychiatrist, one or two psychologists and educators or nurses.

Initially, the sector service had a virtual monopoly of psychiatric care in the commune. This is not altogether the case today. On the one hand, the number of regular home visits has decreased while outpatient consultations have increased correspondingly. Also, the university hospital (Erasme) that was opened in 1977 has been taking over some of the emergency admissions. Efforts have been made to establish a working relationship between the hospital and the sector service but without much success, except to the extent that the hospital takes over from the sector service the task of caring for patients in a state of crisis.

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[a] Item 9 of Table 6.

The psychiatric department of the Erasme Hospital[a] is staffed by 11 physicians, a part-time psychologist and four trainees and is divided into three sections with a total of 90 beds. The proportion of patients resident in Anderlecht can be estimated at around only 30%. This is due partly to the fact that the institution is a teaching hospital strongly oriented towards biomedical research and partly to the professional reputation of the psychiatrist in charge. Thus, some of the patients are from distant provinces and there are a great many from the neighbouring communes of Brabant Flamand.

Finally, it should be noted that there are almost no psychiatrists in private practice in the commune—no doubt a reflection of the near monopoly enjoyed by the state services.

Schaerbeek

The facilities in Schaerbeek include:

—a private psychiatric clinic (Titeca) with 280 beds (item 5 of Table 6);
—a psychiatric outpatient department without psychiatric beds, in Paul Brien General Hospital (item 1 of Table 6);
—two psychiatric outpatient units in polyclinics;
—two mental health centres (La Gerbe and Anaïs) (item 8 of Table 6).

The services in Schaerbeek have a number of features which distinguish them from those in Anderlecht.

As there is no proper system of sector services, psychiatric emergency cases are referred either to the general hospital or to the psychiatric hospital (Titeca) in the commune, when beds are available; quite recently such cases have started being sent to the psychiatric department of Erasme Hospital in Anderlecht.

There are virtually no links between these inpatient facilities and the mental health centres. One of the latter (Anaïs) concentrates its in any case rather limited activities on aftercare and the other (La Gerbe) on prevention. The concept of continuity of care, which is so important in the sector service model, therefore has no place in this context. There is no central body responsible for organizing the care provided to the individual patient and ensuring that the different interventions are properly coordinated.

The psychiatric department in the general hospital has only one psychiatrist and a psychologist who provide consultations as well as ward and on-call services, with the assistance of a trainee psychologist. With the resources available to them, they are not really in a position to cope when patients disrupt the work of the service or when the situation becomes too complicated, and so they often have to refer cases to better equipped institutions and adopt the pragmatic approach of keeping the treatment programme at the lowest level. In addition, their status within the hospital is somewhat uncertain and decisions are sometimes taken before they have even seen the patient.

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[a] See item 3 of Table 6.

On the other hand, at the stage preceding that at which a specifically psychiatric intervention is required, there are many different services in the commune that work in the fields of prevention, community motivation and social welfare. They provide the framework for an intense local community life within which the "mental health" services are more or less hidden because they merge into a nebulous social-cultural-health complex. For instance, in the Schaerbeek study, 140 different institutions were found and had to be excluded at the outset; among them were hospitals, schools, homes, bodies directly linked to the commune, business associations, and youth organizations.

The La Gerbe Mental Health Centre appears to be a kind of focal point of local initiatives, coordinating or promoting some activities and giving material support to others, rather than a patient-counselling service, even though some of its work is of the traditional kind. One of the difficulties of the type of study advocated by WHO was, in fact, that of deciding who to include in a survey of patients, since one of the aims is, to some extent, to do away with the very concept of a patient or, in other words, to adopt a total approach to the individual and his environment in a situation where the lines of demarcation between patients, friends, staff, people from the neighbourhood who are "just passing", militants from an anti-racist group, etc., tend to become blurred.

Thus, the care arrangements, which are no doubt similar to those in the rest of Belgium, are not very closely integrated. The commune does, however, have all the characteristics of a pilot study area, but they are more the reflection of the essentially innovative nature of some of the preventive activities, rather than of the organization of the services. Such organization is, in fact, virtually non-existent; on the one hand, there are hospital structures to deal with emergencies and, on the other, a multiplicity of welfare services in the field, which tend to organize themselves on the lines of an "ecosystem" in which each component body defines its function, role, type of population to be served, etc., on the basis less of a planned central programme than of the problems which are seen as priorities and of the resources available for solving them. Thanks to its organizational flexibility, a system of this kind can redirect its activities as new needs and problems emerge.

Patient census and cohort study

Patient census

As previously mentioned, it was not possible to enrol patients for the survey in such a way as to obtain a representative sample of the population attending the different hospital and other services. As far as possible, however, an effort was made to ensure that the patients from the two communes were representative in respect of each of the institutions taking part in the survey. Inpatients resident in the two communes since a given date were included up to a limit set beforehand on the basis of the total caseload of the institution. The patients were included by order of arrival at the institution. In no case was the rate of refusal to participate over 3 % of the sample. An exception had, however, to be made in the case of one mental health centre (La Gerbe), where almost all of the population were included in view of the small number of clients and the importance of that institution for an analysis of the population using inpatient services as compared with those receiving outpatient care. Table 6 shows the distribution of patients by institution.

Table 6. Distribution of patients by institution in 1980: first admissions, readmissions and patient census

Institutions	First admissions plus readmissions, 1980	Patient census
General hospitals (2)[a]		
1. Paul Brien (Schaerbeek)	450 (50 outpatients)	117
2. St Anne	50	42
General hospitals with psychiatric beds (3)[a]		
3. Erasme	361 + 103	49
4. Brugman	1285 + 19	54
Psychiatric hospitals (1)[a]		
5. Titeca	857 + 4	50
6. Domaine	61 + 11	3
7. Beau Soleil	212 + 107	8
Mental health centres (5)[a]		
8. La Gerbe	50 outpatients	41
9. Anderlecht sector service	150 outpatients	70
10. *Polyclinics* (4)[a]	20	43[b]
Total		477

[a] See the classification of types of contact in Tables C3–C5.
[b] Brabant 8; Helmet 5; Meiser 17; Wayez 13.

Below, by way of comparison, are the numbers of first admissions and readmissions in 1980 to certain psychiatric institutions in Brussels which were not included in the census.

	First admissions	*Readmissions*
Sanatia	299	193
La Ramée	285	266
Sans Souci	332	163
Fond'Roy	370	207

The sample comprised 187 men (39 %) and 290 women (61 %); of these, 39 % were married, 20 % divorced, 10 % widowed and 31 % single.

Tables 7 and 8 show the distributions of patients by age and diagnosis. It will be seen that the largest diagnostic category was neurosis and personality disorders (47 %).

Table 7. Distribution of patients by age

Age (years)	Number	Percentage
15–20	40	8.5
20–30	82	17.2
30–40	96	20
40–50	106	22.2
50–60	87	18.3
60+	63	13.2
Unknown	3	0.6
Total	477	100

Table 8. Distribution of patients by diagnosis

Diagnosis	Number	Percentage
Organic psychosis	7	1.5
Schizophrenia and paranoid states	55	11.5
Affective psychoses	52	11
Other psychoses	14	3
Neurosis and personality disorders	224	47
Alcohol and drug dependence	58	12
Mental retardation	7	1.5
Neurological disorders	7	1.5
Other	14	3
Unknown	39	8
Total	477	100

Description of the cohort

Out of 477 patients included in the census, 151 fulfilled the criteria for inclusion in the cohort, i.e. not in contact with services for at least six months. The proportions of men and women were more or less the same as in the census population: 35.1 % men and 64.9 % women (Table C1, Fig. C1). The same applies to the data on diagnosis in Table C2, which shows a rate of 48.3 % for the category of neurosis and personality disorders and other comparable percentages except for the mental retardation category, where the figures are 1.5 % for the census population and almost 8 % for the cohort. However, there were no "unknowns" in the cohort (8 % in the census).

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 151) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15-19	20-24	25-44	45-64	65-74	75-84	≥85	
Single	M									
	F									
Total										
Married	M									
	F									
Total										
Widowed	M									
	F									
Total										
Divorced/ separated	M									
	F									
Total										
Not known	M									
	F									
Total										
Total	M		4.0	2.6	1.3	13.9	11.9	1.3		35.1
	F		2.6	2.6	1.3	32.5	20.5	3.3	2.0	64.9
Grand total			6.6	5.3	2.6	46.4	32.5	4.6	2.0	100.0

Types of contact and date of entry

There were five different modes of entry (Tables C3–C5), i.e. through: (1) psychiatric hospitals; (2) general hospitals without psychiatric beds; (3) general hospitals with psychiatric beds; (4) polyclinics; and (5) the mental health centre (sector service). Entries (1) and (3) were "intramural" while the others were ambulatory in character. Table C3 shows that 31.7% of patients entered through a hospital and only 38.4% through the sector service. More men entered through the sector service than women (45.3% as against 34.7%) although women entered more frequently than men through general hospitals with psychiatric beds (23.5% as against 9.4%). Table C4 and Fig. C2 show that polyclinics only received patients aged 25–65 years. Less use was made of psychiatric beds in general hospitals after the age of 45 years.

Finally, Table C5 shows that two patients presenting with an organic psychosis were at the psychiatric hospital and also that there were more

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		< 25	25–44	45–64	≥65	
Organic psychoses	M		1		1	
	F		1			1
Total			2			2
Schizophrenia and paranoid states	M		5	6		11
	F		4	6		10
Total			9	12		21
Affective psychoses	M	1			1	2
	F		7	4	2	13
Total		1	7	4	3	15
Other psychoses	M		1			1
	F	1	1	3		5
Total		1	2	3		6
Neurosis and personality disorders	M	7	5	8		20
	F	7	26	15	5	53
Total		14	31	23	5	73
Alcohol and drug dependence	M	1	6	1	1	9
	F		6	3		9
Total		1	12	4	1	18
Mental retardation	M	2	1	2		5
	F	2	4		1	7
Total		4	5	2	1	12
Other	M		2	1		3
	F					
Total			2	1		3
No psychiatric diagnosis	M	1				1
	F					
Total		1				1
Total	M	12	21	18	2	53
	F	10	49	31	8	98
Grand total		22	70	49	10	151

Fig. C1. Cohort by age and sex,
in percentages of total cohort (N = 151)
(See also Table C1)

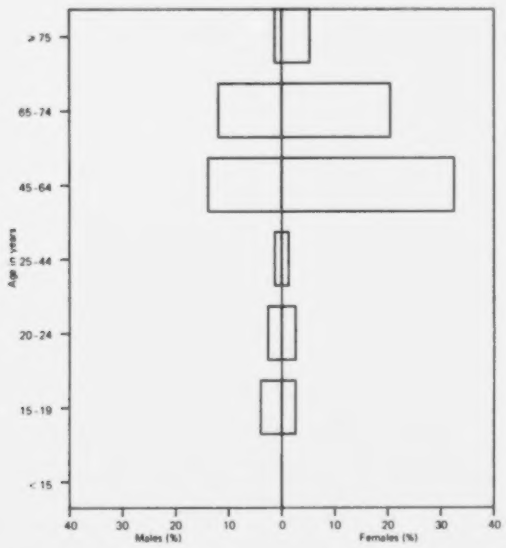

Fig. C2. Cohort by types of contact at first entry and by age,
as percentages of N in each type of contact (see also Table C4)

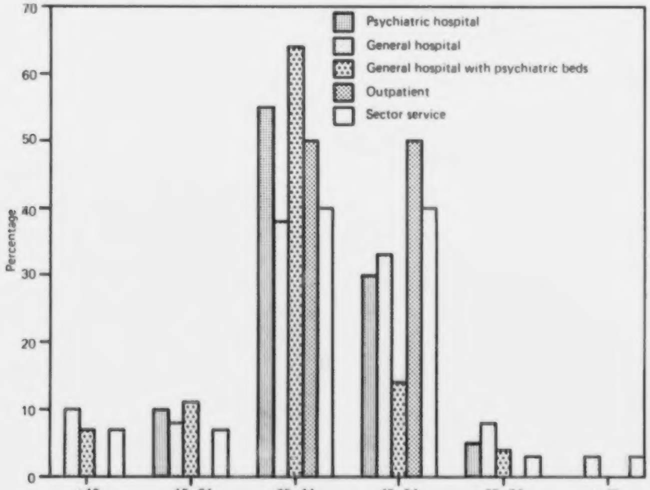

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry[a]				
		1	2	3	4	5
Males	53	13.2	26.4	9.4	5.7	45.3
Females	98	13.3	25.5	23.5	3.1	34.7
Total	151	13.2	25.8	18.5	4.0	38.4

[a] The following classification of types of contact has been used:
1 = psychiatric hospital
2 = general hospital
3 = general hospital with psychiatric beds
4 = outpatient
5 = sector service

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact[a]	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
1		1	1	11	6	1			20
2	4	1	2	5	13	3	1		39
3	2	33		18	4	1			28
4				3	3				6
5	4	3	1	23	23	2	2		58
Total	10	8	4	70	49	7	3		151

[a] The following classification of types of contact has been used:
1 = psychiatric hospital
2 = general hospital
3 = general hospital with psychiatric beds
4 = outpatient
5 = sector service

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact[b]	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
1	2	7	3	1	4	2		1			20
2		2	3	1	28	2	3				39
3		2	7	2	10	4	3				28
4					4		2				6
5		10	2	2	27	10	4	2	1		58
Total	2	21	15	6	73	18	12	3	1		151

patients in the category schizophrenia and paranoid states than in the other diagnostic categories at that hospital.

General remarks on the cohort analysis

In view of the small number of people in the cohort who could be followed up (74), it did not seem worthwhile to analyse the results in detail, and hence it was not possible to compare the data with those from the other pilot study areas.

Footnotes to Table C5.

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

[b] The following classification of types of contact has been used:
1 = psychiatric hospital
2 = general hospital
3 = general hospital with psychiatric beds
4 = outpatient
5 = sector service

Leuven, Belgium

The pilot study area

General and geographical information

Since the 1977 merger of communes, Belgium consists of nine provinces divided into 596 communes (total area 30 518 km², 322 inhabitants per km² in 1981).

In the province of Brabant (area 3358 km², 661 inhabitants per km² in 1981), 30 communes belong to the Leuven district (area 1162 km², 356 inhabitants per km² in 1981).

The Leuven health region (the pilot study area) is composed of 21 communes within the Leuven district (area 663 km², 438 inhabitants per km² in 1981).

The presence of the city of Leuven in the pilot study area (area since the 1977 merger 56 km², 1502 inhabitants per km² in 1981) is of great importance.

Leuven is located on the River Dyle, near main motorways, and is well served by railways and buses. Brussels Airport (Zaventem) is some 15 km from the city.

Since Leuven is a university city (the Catholic University of Leuven was founded in 1425) many young people aged between 18 and 30 live there for several years. The university is an important source of employment for many inhabitants of the area and its presence also affects the organization of health services, sociocultural organizations and the entire commercial sector.

The demographic development of the Leuven pilot study area is a classic example of suburbanization. The population of the city centre decreased as people moved to the surrounding communes. Since the Second World War, all these communes have increased in population by more than 56%, or almost four times the national average.

Besides these densely populated regions, there are also some large rural areas that are less densely populated.

The climate over the whole country can be characterized as a moderate western European climate.

Sociodemographic profile

Population by sex, age and marital status

Tables 1 and 2 show the distribution of the population of the Leuven health region by age, sex and marital status in 1981. It will be seen from

Table 1. Population by sex and age, absolute and as a percentage of total population, 1981

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Absolute						
Males	32 018	24 942	45 575	35 104	17 551	155 190
Females	30 298	24 235	44 135	35 504	24 776	158 948
Total	62 316	49 177	89 710	70 608	42 327	314 138
Percentage						
Males	10.2	7.9	14.5	11.2	5.6	49.4
Females	9.6	7.7	14.0	11.3	7.9	50.6
Total	19.8	15.7	28.6	22.5	13.5	100.0

Table 2. Population by sex, age and marital status as a percentage of total in each age/sex category, 1981

Sex	Age	Marital status				Total
		Single	Married	Widowed	Separated/ divorced	
Males	<15	100.0	—	—	—	100.0
Females		100.0	—	—	—	100.0
Males	15–24	86.0	13.9	—	0.1	100.0
Females		72.2	27.6	0.1	0.2	100.0
Males	25–44	14.3	83.0	0.2	2.4	100.0
Females		8.5	87.7	1.0	2.8	100.0
Males	45–64	7.4	88.3	2.3	2.0	100.0
Females		6.7	82.5	8.9	1.9	100.0
Males	≥65	7.7	71.0	20.3	1.0	100.0
Females		10.1	41.3	47.8	0.9	100.0
Males	Total	41.2	54.6	2.9	1.3	100.0
Females		35.5	53.4	9.7	1.4	100.0

Table 1 that the population is almost equally divided between the sexes with 49.4 % males and 50.6 % females. Because of the pronounced aging of the city population and of a large number of institutions for the elderly, the age-group 65 years or over is relatively large (13.5 %). Of the males in this age-group, 71 % were married and 20.3 % were widowed. For the females, the corresponding figures were 41.3 % and 47.8 % respectively.

Many young people aged between 20 and 30 years live in the city while studying at the University and remain there for several years after their studies have been completed. Although they are not always included in the population statistics (because their official residence is elsewhere), it must be assumed that this age group is over-represented in Greater Leuven.

Employment and main economic activities

The number of persons in employment has increased from 4 079 430 in 1978 to 4 137 547 in 1979 in Belgium (approximately 81 % of the males aged 15–65 years and 47 % of the females in the same age group).

The economically active population in the city of Leuven is less than the national average. This is due to the large number of students and the presence of several religious houses and social institutions. Of the males aged 25 years or over, 5699 in the Leuven district were unemployed in 1982 and receiving unemployment benefit;[a] 7432 females in the same age group were in the same position.

In Greater Leuven, 32.5 % of the economically active population is employed in the food industry, 16.75 % in the beverage industry and 5 % in such sectors as metals, cloth, chemistry, books and photography. The tertiary sector is the most important and is expanding; the agricultural sector is declining.

Population distribution[b] and housing

Greater Leuven consists of an urban region (31 023 inhabitants) and an urbanized surrounding region (49 768 inhabitants). In the Leuven district as a whole the inhabitants of urban residences (19.4 %) are under-represented in comparison with the Flemish-speaking region (43.8 %) and the whole country (48.7 %). On the other hand, urbanized and rural communes are over-represented in the Leuven district, the figures being 73.3 % and 7 % respectively, as compared with 50.9 % and 5.2 % for the Flemish-speaking region and 45.8 % and 5.5 % for the whole country.

According to the 1977 estimate for Greater Leuven derived from the data from the 1970 census, 81 158 inhabitants were living in 29 472 individual houses, 3106 in apartment houses and 79 in mobile homes; 2499 houses were uninhabited or used as second homes.

Of the 29 472 individual houses, 29 002 are connected to the public water supply system, 17 050 have a private bathroom or shower, 13 000 have central heating, and 11 316 have a private telephone; 10 848 out of the 29 002 with a public water supply have a flush toilet, private bath or shower and central heating. Almost all houses have electricity.

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[a] RVA-Leuven (governmental service): monthly reports, July 1982.

[b] 1970 figures for Greater Leuven. Nationaal Instituut Voor Statistiek, 1977.

Main ethnic and religious groups

The population of Belgium consists of a mixture of Germanic and Latin elements.

The majority of the population is Roman Catholic, but there are minority groups of Protestants and Jews.

Dutch is the official language in the pilot study area, as it is in the entire northern part of the country (Flemings constitute 57% of the total Belgian population). A large number of foreigners, mainly university students and their families, but also migrant workers and employees, have moved into the pilot study area. In 1981, there were 1269 immigrants (765 males and 504 females) in Greater Leuven and 1004 emigrants (630 males and 374 females) left it. It is of interest that 75% of all migrants came from outside the European Economic Community.

Of the total population of the Leuven pilot study area, 4.7% were foreigners in 1981. The 25–44-year age group is strongly represented (9.7% of the males and 4.5% of the females in this age-group) because of the foreign students living in the city.

As the Catholic University of Leuven is located in the pilot study area, it contains a large number of university students (in 1973, 31 884 or 40% of all university students in Belgium; 3325 of them were foreigners).

Indicators of social stability

Although there was an overall increase in the suicide rate[a] between 1965 and 1978 from 15.1 to 20.8 per 100 000 of the population of Belgium, the pattern has remained the same: the rate for males (28.0 in 1978) is twice that for females (14.0 in 1978). For the Leuven district in 1976 these figures were: 19.4 for males and 10.3 for females, and 14.8 per 100 000 of the total population.

The number of young people (0–18 years) brought before the juvenile court increased slightly in Belgium between 1967 and 1978. There was an increase from 0.87 per 100 of the population to 0.93 in those referred to the office of the public prosecutor; from 0.11 per 100 of the population to 0.12 in those referred to the juvenile court; and from 0.04 per 100 of the population to 0.5 in the numbers of minors sentenced. The corresponding figures—but in absolute terms—for the Leuven district in 1978 were 2008, 301 and 156, respectively.[b]

There is no reason to conclude, however, that juvenile delinquency has increased. Nowadays the whole socioeconomic setting in which minors live creates new problems for them. Many young people are unemployed and have difficulty in finding anything to do with their time. Other difficulties also arise.

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[a] **Sources**: Figures from statistical yearbooks for Belgium, Nationaal Instituut voor Statistiek; and from Baert, A. E. *An international comparative epidemiological study, Vol. 2.* Catholic University of Leuven, Faculty of Medicine, 1980.

[b] Ministry of Justice, 1980.

An important and growing tendency is to avoid the admission of minors to institutions. Whenever possible, the court tries to transfer cases to ambulant teams and organizations. In this way, minors can stay with their families or problems can be solved in the community.

The total number of convictions in Belgium in 1974 was 128.97 per 100 000 of the population, of which 59.83 were for theft and poaching, 43.55 were for offences against the person and endangering life, and 20.28 were for breach of the peace. For the province of Brabant, these figures were 107.03, 54.04, 27.40 and 14.29, respectively.

In 1976, the prison population of Belgium amounted to 55.45 per 100 000 of the total population (5226 males and 215 females). No appreciable changes have occurred in this indicator.

The annual consumption of alcohol (expressed in litres of 100% ethanol) (beer, wine, spirits) increased among the Belgian population aged 15 years and over from 9.6 in 1957 to 13.5 in 1977. The estimated number of those who consume more than 15 cl of 100% ethanol daily increased from 173 000 in 1960 to 302 000 in 1977.[a]

Of the high-school population aged 16–18 years in Leuven and the surrounding district in 1978,[b] 90% had consumed alcohol during the last ten months, 47% had used tobacco, 48% had taken psychotropic drugs and 5% had taken illicit psychoactive drugs.

Health and welfare system

Health services

The Catholic University of Leuven plays an important role in the organization of the health services. The number of hospital beds (in both general and in psychiatric hospitals) in the pilot study area is very high (see Table 3).

The four outpatient services in Greater Leuven (six in the health region) were developed fairly recently and are still expanding.

Most of the health and mental health facilities are privately operated services financed by the government. A health insurance system covers almost the entire population of the country.

The total number of health professionals in Greater Leuven in 1977[c] (including all since the exact number working in private practice is not available) is as follows (all figures are per 1000 population): 0.99 general practitioners, 0.66 psychiatrists, approximately 0.20 psychiatric social

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[a] **De Lint, J.** Het alcoholgebruik in Belgie en Nederland. *In*: De Baere, H. & Casselman, J., ed. *Het alcohol probleem*. De Nederlandse Bibliotheek der Geneeskunde. Brussels, Stoflen, 1980 pp. 36–42.

[b] **Casselman, J. et al.** *Gebruik van alcohol en andere drugs by schoolgaande jongeren*. Universities of Gent and Leuven, 1981.

[c] Nationaal onderzoeksprogramme in de sociale wetenschappen. Eerstelijk-gezondheitszorg: morfologische analyse 1977 en inventarisatie sociale dienstverlening. Arr. Leuven, Interleuven.

Table 3. Health services in the Leuven pilot study area and in Greater Leuven, 1978

Types of health service	Number of services	Number of beds	Beds per 1000 population
General hospitals			
Greater Leuven	4	1820	≈ 22.5
Health region	8	2434	≈ 8.06
Psychiatric wards in general hospitals			
Greater Leuven	3	≈ 60	≈ 0.7
Health region	3	≈ 60	≈ 0.2
Psychiatric hospitals			
Greater Leuven	2	127	≈ 1.6
Health region	6	1938	≈ 6.4
Institutions for the mentally retarded			
Greater Leuven	1	132	≈ 1.6
Health region	2	362	≈ 1.2

workers employed in psychiatric services, and approximately 2.49 public health nurses visiting families and the elderly at home to provide care.

The general health situation

The infant mortality for Leuven in 1976 was 1.5 per 1000 live born. For other information on the health situation, see the description of the Brussels pilot area.

Table 4 shows the five leading causes of death for males and females in 1975.

Table 4. Five leading causes of death, by sex (Belgium, 1975)

Cause of death	Males (%)	Females (%)
1. Diseases of the circulatory system	37.94	41.01
2. Neoplasms (malignant and benign)	22.89	19.01
3. Diseases of the respiratory system	5.83	3.00
4. Accidents	5.34	4.49
5. Endocrine disorders (diabetes mellitus)	1.62	4.12

Source: Nationaal Instituut vor der Statistiek, 1978.

Mental health services

The pilot study area is well provided with mental health services. Besides three large psychiatric institutions and a few psychiatric wards in general hospitals a whole network of outpatient services is in process of expansion, many of them trying to work on a small scale and usually relying on volunteers. Collaboration between inpatient and outpatient services is slowly being developed.

Existing facilities

Table 5 shows all the psychiatric services, i.e. services having at least one psychiatrist (part-time or full-time), in the Leuven health region. Geriatric services and institutions for minors (those aged under 21 years) are not included in Table 5. On the whole, only a few patients are admitted to services outside the Leuven area and of these most are admitted to one of the two other mental hospitals (Psychiatrische Kliniek Broeders Alexianen Tienen (responsible authority: Vereiniging Zonder Winstdoch (VZW)[a]) or Psychiatrisch Centrum St Norberthushuis Duffel (VZW Covabe) within the Leuven district. Because some patients do not want it to be known that they have been admitted or need specific treatment not available in the area (only a few specialized services in Belgium treat patients with alcohol and drug problems) some patients from the Leuven area are admitted to various services in Brussels. For some of these patients, this may be the best course to take.

For a number of reasons, not all the services mentioned in Table 5 could be included in the study. The six services which did participate and which are called the "small circuit" are not at all representative of the pilot study area. It is known that, with the exception of one outpatient service, the five other institutions work together very closely: transfers between these services (and not to other similar services) are usual.

An attempt will be made later to complete the psychiatric careers—found in the present study—through contact with all existing psychiatric services in Greater Leuven. This has not yet been done.

The six services which participated in the study are described below.

St Kamillus University Psychiatric Centre, Bierbeek

In St Kamillus, all functional units are grouped within three departments, namely the psychosocial, psycho-organic and psychopedagogic departments.

In every unit, a team of therapists is responsible for the integration and coordination of care for all the patients living in that unit. This team is led by the head nurse, the team coordinator and the staff physician. All disciplines (such as social work, psychology, etc.) can be represented and make their specific contribution.

St Kamillus does not provide day care or outpatient facilities. There are, however, possibilities of aftercare for discharged patients. Usually, a

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[a] VZW: non-profit-making organization.

Table 5. Services located within the pilot study area

Name of service	Responsible authority	Type of service
Universitair Psychiatrisch Centrum, St Kamillus, Bierbeek	VZW Broeders van Liefde	Mental hospital[a]
St Jozefkliniek voor Psychiatrie, Kortenberg	VZW Zusters van Barmhartigheid Jezus	Mental hospital
Universitaire Psychiatrische Kliniek Salve Mater, Lovenjoel	Catholic University of Leuven	Mental hospital
Psychopathologie AZ, St Rafael, Leuven	Catholic University of Leuven	Separate psychiatric unit in general hospital
Spoedhospitalisatie voor Psychiatrie Akademische Zuikenhuis St Rafael, Leuven	Catholic University of Leuven	Separate psychiatric unit in general hospital
Psycho-sociaal Centrum		
polyclinic	VZW Sociaal Centrum van Leuven	Outpatient psychiatric clinic[a]
day clinic	Opgericht door Sint-Pietersbond	Mental health day facility[a]
night clinic	Verbond van Christelijke Ziekenfondsen	Mental health night facility[a]
Nakuurhome Papiermoleken,[b]	VZW Nakuurhome Papiermoleken	Mental hospital[a]
Koorbeek-Lo		Mental day/night facility
Universitair Gezondheidscentrum Mental Health Centre (DGGZ)	VZW Universitair Gezondheidscentrum, Leuven	Outpatient psychiatric clinic[a] comprehensive community mental health centre
Aurora: Centrum voor psycho-sociale revalidatie, Kessel-10[c]	VZW Aurora	Mental hospital
Le Beau Soleil, Tervuren[c]	Not known	Not known

[a] Participated in the study.

[b] For Papiermoleken "mental hospital" only refers to inpatient care. The service is an aftercare home not to be compared with the other mental hospitals.

[c] Not providing care/service to the area.

social worker will assist the patient for as long as is necessary. This aftercare is the result of an agreement between the patient and his therapist(s).

Table 6 gives a schematic overview of all the functional units with their function, aim and patient population.

Psycho-Sociaal Centrum: outpatient care

The Centre provides non-residential and semi-residential care for men and women, and for both adults and adolescents. Outpatient care is delivered at the polyclinic and the rehabilitation centre.

Polyclinic. People with all kinds of problems can contact the service but those with specific problems, such as psychogeriatrics, delinquents,

Table 6. Schematic overview of the function, population and aim of the functional units, grouped by department, St Kamillus, 1982

Functional unit	Function	Population	Aim	Number of patients on 15 September 1982	Number included in the census
		A. Psychosocial department			
Pax-AP	Admission—general psychiatry (open ward)	Patients with general psychiatric and psychosocial problems who do not need to be admitted to a closed ward	Crisis intervention, observation and treatment	21	4
St Jozef	Admission (open ward)	Patients with alcohol and drug problems	Acute observation and treatment	25	4
St Dymfna A	Residence (closed ward)	Chronic psychotics	Sociotherapy	39	5
St Dymfna B	Residence (closed ward)	Heavily disturbed, regressed or aggressive patients	Intensive individual behaviour therapy	25	4
St Pieter	Residence (open ward)	Chronic psychotics	Token salary	57	19
St Paulus J	Residence (open ward)	Young psychotics	Resocialization	9	1
St Paulus	Residence (open ward)	Chronic elderly and more mobile, younger patients	Resocialization	45	12
		B. Psychopedagogic department			
St Jan Berchmans	Admission	Mentally retarded patients with psychiatric problems	Crisis intervention plus observation, observation, decompensation and treatment	25	6
St Alois	Residence	Slightly to severely mentally retarded patients	Pedagogic supervision	49	11
St Cornelius					
A	Residence (closed ward)	Severely mentally retarded patients with epilepsy	Nursing and psychiatric support	25	2
B				25	4
St Vincentius A, B, C	Residence	Slightly mentally retarded patients with disturbance of behaviour	Treatment and resocialization	60	10

Table 6. (*Contd.*)

Functional unit	Function	Population	Aim	Number of patients on 15 September 1982	Number included in the census[a]
Central function	General service	All patients	Central administration, pastoral work	NA	NA
Revacentre	Revalidation	All types of patient	Rehabilitation by occupational, creative and other therapies	NA	NA
		C. Psycho-organic department			
Pax-POP	Admission (open ward)	Patients with psycho-organic problems	Observation and treatment	28	8
Zaal 1	Intensive psychogeriatrics—admission (closed ward)	Patients with psychogeriatric problems	Observation and treatment, self-support and resocialization	14	3
Zaal 2	Intensive psychogeriatrics—residence (closed ward)			16	
Zaal 3–4	Open geriatric ward (residence)	Elderly chronic mentally retarded patients	Treatment aimed at social reintegration	34	11
Zaal 7–8	Open geriatric ward (residence)	—Mobile elderly patients with limited possiblities of discharge —Elderly psychic disturbed patients (adequately self-supporting)	Restimulation of activity in elderly patients	35	8
Zaal 5	Nursing ward	Patients in need of long-term care	Supervision aimed at restoring independence	20	2
Zaal 6	Sick ward	Different groups of patients from the whole institution	Observation and intensive medical care	7	
Observation B	Admission (closed ward) structured towards aggressive patients	Patients with acute psycho-organic or psychosocial problems	Observation and treatment	15	—

[a] NA = information not available.

and alcohol and drug dependents, can also be treated. An important part of the polyclinic's work is providing aftercare for patients who have been treated in a psychiatric hospital (and especially in St Kamillus).

In 1980, 592 clients had at least one consultation.

In 1980 the personnel consisted of 6–7 neuropsychiatrists and assistant psychiatrists, and 1 secretary.

Rehabilitation centre. Depending on the degree of disablement, individual rehabilitation programmes are drawn up and conducted by an interdisciplinary team. All these therapeutic activities are paid by the State Fund for Social Rehabilitation.

There is an average of seven patients a week.

The personnel consists of 1 ergotherapist, 1 kinesitherapist and 3–4 physicians.

Psycho-Sociaal Centrum: day care

The day hospital has 30 beds and provides a special kind of treatment (sociotherapy) for neurotic and borderline patients who return to their homes after treatment. Every working day (between 08.30 and 16.30), each client is treated in a group setting by a multidisciplinary team. An intensive programme is carried out, with group discussions, creative activities, learning sessions and individual talks to clear up problems. Relatives are also involved. The length of stay depends on the progress of the treatment (the average is a few weeks). Crisis intervention for a few days is also possible. Aftercare is possible either in the Centre or elsewhere, depending on the therapist.

Psycho-Sociaal Centrum: night care

Night care, for which 30 beds are available, is a special type of partial hospitalization that allows patients to continue their daily activities but at the same time follow a short programme at the Centre and stay there for the night (between 17.30 and 08.30).

This treatment is most useful for:

- —people who are receiving crisis intervention (or are going to) because of psychic or psychosocial problems but for whom it is very important to go on with their daily activities;
- —intensive care before restarting daily activities after a period of illness;
- —intensive care for adolescents during the critical period of becoming independent.

Nakuurhome Papiermoleken

This is an aftercare home where both day and night care are available (capacity 20 beds).

The therapeutic approach is twofold: on the one hand patients have the experience of living in a community without any therapeutic programmes and, on the other, a number of therapeutic programmes are

Table 7. Overview of personnel[a]

Type of staff	Regular staff								Students, trainees, residents, etc.							
	St Kamillus		Psycho-Sociaal Centrum		Nakuurhome Papiermoleken		Universitair Gezondheits-centrum		St Kamillus		Psycho-Sociaal Centrum		Nakuurhome Papiermoleken		Universitair Gezondheits-centrum	
	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.
Professional health staff																
Psychiatrists	12	10	1	1	1	0.5	4	2	11	11	2	1.5	1	0.5	—	—
Non-psychiatric physicians	2	1	—	—	—	—	—	—	5	2.5	—	—	—	—	—	—
Qualified nurses[b]	129	126	5	5	2	1.33	—	—	120	16	1	0.75	6	0.75	—	—
Clinical psychologists[c]	15	14	1	1	3	2	3	2.5	3	3	1	0.5	—	—	1	0.5
Other psychologists[d]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	0.5
Psychiatric social workers	10	9	1	1	1	0.6	2	2	—	—	—	—	—	—	1	0.5
Other social workers	—	—	—	—	—	—	1	1	13	3	1	0.5	—	—	1	0.5
Other mental health professionals	41	25	1	1	3	2.2	—	—	—	—	—	—	—	—	—	—
Other health professionals	—	—	1	1	1	0.19	—	—	45	6	—	—	—	—	—	—

Table 7. (*Contd.*)

Type of staff	Regular staff								Students, trainees, residents, etc.							
	St Kamillus		Psycho-Sociaal Centrum		Nakuurhome Papiermoleken		Universitair Gezondheits-centrum		St Kamillus		Psycho-Sociaal Centrum		Nakuurhome Papiermoleken		Universitair Gezondheits-centrum	
	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.	No.	f.t.e.
Other health staff																
Assistant nurses	26	26	NA[e]	NA	2	2	NA	NA	—	—	NA	NA	—	—	NA	NA
Unqualified health personnel	37	37			—	—	NA	NA	—	—			—	—	NA	NA
Non-patient care staff																
Administrative and clerical	31	31	2	2	1	0.33	1	1	2	2	—	—	—	—	—	—
Housekeeping	49	48	2	2	1	1	—	—	—	—	—	—	—	—	—	—
Total	355	329.5	14	14	15	10.09			202	44.5	5	3.25	7	1.25	3	1.5

[a] Hours per week for full-time equivalent (f.t.e.) are 38 except: Psycho-Sociaal Centrum, psychiatrists 36; Nakuurhome Papiermoleken, psychiatrists 25–30; Universitair Gezondheitscentrum, psychiatrists 28; and psychiatric and other social workers 40.

[b] Also includes home help (general and for the elderly), child welfare workers, child nurse and hospital assistant.

[c] Also includes sociologists and pedagogues.

[d] Psychological assistants and educators.

[e] NA = information not available.

available (individual and group therapy). The overall objective is to provide protection to psychiatric patients with a view to making them increasingly functionally and emotionally self supporting. Psychotherapy, ergotherapy and sociotherapy are available at all times. All residents of the home participate—or learn to participate—in household activities.

The personnel work with individuals. If necessary, patients are transferred to another service and readmissions are also possible.

An important aim is to provide aftercare for patients who have already been treated in St Kamillus.

Community Mental Health Centre: Universitair Gezondheidscentrum DGGZ

This service provides outpatient care only in two separate units, one for children and young people and one for adults. Only the last of these is included in the study.

The personnel are divided into four teams for dealing with the following four categories of patients:

(1) patients with general psychosocial problems: the aim is to identify and supervise people with such problems (relational, sexual, etc.);
(2) patients with alcohol and drug problems: the team's function is the supervision of people who have problems of this type;
(3) delinquents: the aim is to resocialize them;
(4) epilepsy patients.

Personnel and costs

Tables 7 and 8 give an overview of the numbers and full-time equivalents of regular staff and students, residents, etc., and of the average cost of services respectively.

Table 8. Average cost of services in 1980

Service	Amount in local currency (Belgian francs)	Personnel costs as percentage of total	Short-term capital as percentage of total	Fixed capital as percentage of total
St Kamillus University Psychiatric Centre				
Inpatient day	1386	70	3.4	4.25
Day hospital	970	70	3.4	4.25
Night hospital	970	70	3.4	4.25
Psycho-Sociaal Centrum				
Night hospital	1490	76	16	8
Nakuurhome Papiermoleken				
Night hospital	867	75	23	2

Patient census and cohort study

Patient census

It was impossible to use a similar procedure for both inpatient and outpatient services. For inpatient, day patient and night patient services, the census was constructed on 15 September 1982. Because the total population of the first service was too great, a random sample was used; in contrast, all patients admitted to the other inpatient services were included. For the outpatient services, the census consists of all patients who visited them at least once during September 1982. The figures for the various services are shown in Table 9 and discussed below.

University Psychiatric Centre St Kamillus

On 15 September 1982, 568 patients were admitted to St Kamillus, 114 being selected for the census at random (all males). For several years, the centre has also tried to admit women, but their number still remains small (on the census day, only nine women had been admitted).

The population of St Kamillus is relatively old, containing 64 patients aged between 50 and 74 years, and one more than 85 years old; the youngest group is aged between 20 and 24 years.

Two-thirds of the sample are unmarried (80 patients), 24 patients are married, four divorced, two separated and three widowed.

The number of patients included in the census are shown for the various functional units in Table 6.

St Kamillus seems to address itself to a chronic population: 75 patients have lived in the institution for more than five years and 11 for between two and five years. The other census patients were admitted to St Kamillus within the last two years.

Psycho-Sociaal Centrum: day and night clinic

For the day and night clinic, all patients admitted on 15 September 1982 were included in the census, namely 18 day patients (11 men and 7 women) and 20 night patients (15 men and 5 women) (no information was available on four patients).

These two units apparently address themselves to a relatively young population (aged between 20 and 40 years), most of whom are single (especially in the night clinic).

The length of stay varies between less than one month to a maximum of one year. In the day hospital most of the patients stay only for a short period (between one and three months). In the night clinic, the length of stay is more variable.

Nakuurhome Papiermoleken

For this inpatient service again, the total population on 15 September 1982 was included. A total of 18 patients were admitted: 17 men and

Table 9. Patient census on 15 September 1982, by age and diagnosis

Age group (years)	Sex	Service[a]	Organic psychoses	Schizophrenia and paranoid states	Affective psychoses	Other psychosis	Neurosis and personality disorders	Alcohol and drug dependence	Other, unknown	Total
15–24	Males	A	1	—	—	—	1	—	4	6
		B	—	—	—	—	2	—	1	3
	Females	C	—	—	—	—	1	—	—	1
		D	—	1	—	—	1	—	—	2
		B	—	—	—	—	—	—	1	1
	Both	A	1	—	—	—	1	—	4	6
		C	—	—	—	—	2	—	1	3
		D	—	1	—	—	1	—	—	2
		B	—	—	—	—	2	—	2	4
	Total		1	1	—	—	6	—	7	15
25–44	Males	A	2	5	—	1	9	2	4	23
		C	—	1	—	—	6	—	1	8
		D	—	2	—	1	3	2	3	11
		B	—	2	1	1	4	2	2	12
	Females	C	—	—	—	—	2	—	—	2
		D	—	—	—	—	1	—	—	1
	Both	A	2	5	—	1	9	2	4	23
		C	—	1	—	—	8	—	1	10
		D	—	2	—	1	4	2	3	12
		B	—	2	1	1	4	2	2	12
	Total		2	10	1	3	25	6	10	57
45–64	Males	A	2	23	1	2	3	2	14	47
		C	1	—	—	1	—	—	—	2
		D	—	2	—	—	—	2	—	4
		B	—	—	—	1	—	—	1	2

Table 9. (*Contd.*)

Age group (years)	Sex	Service[a]	Organic psychoses	Schizophrenia and paranoid states	Affective psychoses	Other psychosis	Neurosis and personality disorders	Alcohol and drug dependence	Other, unknown	Total
	Females	C	—	—	—	—	1	—	1	2
		D	—	—	—	—	1	—	—	1
	Both	A	2	23	1	2	3	2	14	47
		C	1	—	—	1	1	—	1	4
		D	—	2	—	—	1	2	—	4
		B	—	—	—	1	—	—	1	2
	Total		3	25	1	4	5	4	16	57
65 +	Males	A	8	17	—	—	1	1	10	37
All ages	Males	A	13	45	1	3	14	5	32	114[b]
		C	1	1	—	1	6	—	1	10
		D	—	4	—	1	3	4	3	15
		B	—	2	1	2	6	2	4	17
	Females	C	—	—	—	—	4	—	1	5
		D	—	1	—	—	3	—	—	4
		B	—	—	—	—	—	—	1	1
	Both	A	13	45	1	3	14	5	32	114[b]
		C	1	1	—	1	10	—	2	15
		D	—	5	—	1	6	4	3	19
		B	—	2	1	2	6	2	5	18
	Total		14	53	2	7	36	11	42	166[b]

[a] A = St Kamillus University Psychiatric Centre; B = Nakuurhome Papiermoleken; C = Psycho-Sociaal Centrum (day care); D = Psycho-Sociaal Centrum (night care)
[b] Including one man of African origin whose age and diagnosis were unknown.

one woman, almost all young people aged between 20 years and 30 years; 16 of the 18 census patients were single.

Most of the patients (11) had been in other institutions, mainly psychiatric hospitals, before being admitted to Papiermoleken.

As Papiermoleken is an aftercare home, the length of stay is relatively short: ten patients had stayed there for less than six months on the date of the census.

Discussion

The data on the diagnostic distribution in relation to the age and sex of patients at the above four inpatient day or night services given in Table 9 show that the largest diagnostic group is that of schizophrenia and paranoid states; these are mainly male patients aged 25 years or over being treated at St Kamillus. The second largest group is that of "unknown and other diagnoses", consisting mainly of male patients aged 45 years or over at St Kamillus, followed by patients with neurosis or personality disorders, who are mainly males aged 25–44 years being treated in one of the four services.

Outpatient services of the psychosocial centre and the Community Mental Health Centre (DGGZ)

A total of 160 patients had one or more consultations at the psychosocial centre during September 1982 but the complete census information was available only for 34 of them, namely 33 males and one female, almost all aged 25–64 years. The diagnostic groups of neurosis and personality disorders and of alcohol and drug dependence were highly represented. During the same period, 45 patients visited the Community Mental Health Centre. The census information for most of these people is still not available.

The cohort includes 66 of the 160 patients of the psychosocial centre and 21 of the 45 of the Community Mental Health Centre.

Description of the cohort

The cohort was selected from 200 consecutive cases entering the participating services and not having been in contact with them for at least six months. It included 115 males and 70 females. Half the patients were aged 25–44 years and more females than males were married (see Table C1 and Fig. C1). Table C2 contains data on diagnosis in relation to sex and age. The most frequent diagnoses are neurosis and personality disorders with 57 patients or 30.8% of the total (46% of the females and 22% of the males), alcohol and drug dependence with 44 or 23.8% (34% of the males and 7% of the females) and not known with 32 or 17.3%.

The high percentage of the last mentioned is due to the fact that one of the outpatient services does not routinely make a diagnosis but

Table C1. Cohort by sex, age and marital status, in percentages of total cohort
(N = 185)
(see also Fig. C1)

Marital status	Sex	Age in years								Not known	Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85		
Single	M		3.2	10.3	8.6	2.2				0.5	24.9
	F		0.5	2.7	2.2	0.5	0.5			1.1	7.6
Total			3.8	13.0	10.8	2.7	0.5			1.6	32.4
Married	M			0.5	16.2	4.3	1.1	1.1			23.2
	F			2.7	9.7	3.8				2.2	18.4
Total				3.2	25.9	8.1	1.1	1.1		2.2	41.6
Widowed	M				1.1	1.1	1.1	1.6			4.9
	F				0.5	1.1	0.5	0.5			2.7
Total					1.6	2.2	1.6	2.2			7.6
Divorced/ separated	M			1.1	5.9						7.0
	F			1.1	3.2	0.5				0.5	5.4
Total				2.2	9.2	0.5				0.5	12.4
Not known	M				0.5	1.1				0.5	2.2
	F		0.5	1.1	1.6					0.5	3.8
Total			0.5	1.1	2.2	1.1				1.1	6.0
Total	M		3.2	11.9	32.4	8.6	2.2	2.7		1.1	62.2
	F		1.1	7.6	17.3	5.9	1.1	0.5		4.3	37.8
Grand total			4.3	19.5	49.7	14.6	3.2	3.2		5.4	100.0

Table C2. Cohort by diagnosis, sex and age

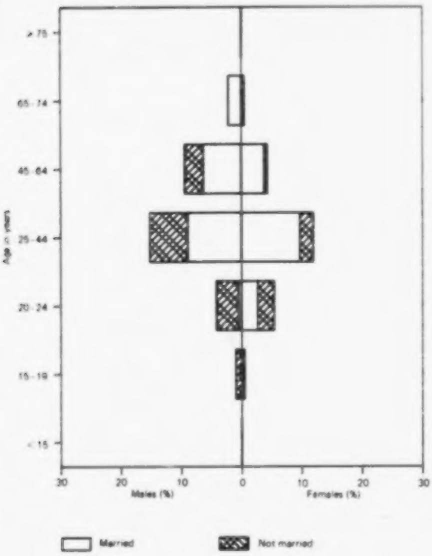
Diagnosis	Sex	Age in years					Total
		<25	25–44	45–64	>65	Not known	
Organic psychoses	M		1		8		9
	F						
Total			1		8		9
Schizophrenia and paranoid states	M	2	7	1			10
	F		4				4
Total		2	11	1			14

Table C2. (*Contd.*)

Diagnosis	Sex	Age in years					Total
		<25	25–44	45–64	≥65	Not known	
Affective psychoses	M			3			3
	F						
Total				3			3
Other psychoses	M			1			1
	F		1				1
Total			1	1			2
Neurosis and personality disorders	M	10	14		1		25
	F	10	11	5	3	3	32
Total		20	25	5	4	3	57
Alcohol and drug dependence	M	8	23	7		1	39
	F	1	3	1			5
Total		9	26	8		1	44
Mental retardation	M						
	F						
Total							
Other	M	2	2	4			8
	F	1	3	1		2	7
Total		3	5	5		2	15
No psychiatric diagnosis	M		2			1	3
	F	1	2	1		2	6
Total		1	4	1		3	9
Not known	M	6	11				17
	F	3	8	3		1	15
Total		9	19	3		1	32
Total	M	28	60	16	9	2	115
	F	16	32	11	3	8	70
Grand total		44	92	27	12	10	185

instead identifies a group of specific problems. These are not considered as pathological, hence there is no need for a diagnosis. Most of the problems are described as relational in one sense or another. Another reason for the high percentage of unknowns is that some outpatients

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 185) (See also Table C1)



come mainly for advice and information, in which case no diagnosis is made. Since psychiatric services do not admit patients suffering only from "mental retardation", this category was not found in the cohort.

Types of contact at first entry

Tables C3–C5 and Fig. C2 show that 81.1 % of the cohort entered as outpatients. Any comparison with the census data should therefore be made with caution. Most of the female patients entered as outpatients, namely 95.7 % as compared with 72.2 % of the males. Patients aged 65 years or over were particularly likely to enter as inpatients. Table C5 shows that patients with neurosis and personality disorders, alcohol and drug dependence or "another" diagnosis entered mainly as outpatients, while those with an organic or affective psychosis were more often admitted as inpatients at entry.

Types of contact during the first year

Table C6 shows that 23 % of the cohort had one outpatient contact only and 26 % received outpatient care for a period of less than three months but with a frequency of at least one contact every two weeks. Furthermore, Table C6 shows that psychotic patients are most

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry		
		Outpatient	Inpatient	Day patient
Males	115	72.2	25.3	2.6
Females	70	95.7		4.3
Total	185	81.1	15.7	3.2

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years									Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	Not known	
Outpatient		7	33	77	20	2	1		10	150
Inpatient			3	10	7	4	5			29
Day patient		1		5						6
Total		8	36	92	27	6	6		10	185

Fig. C2. Cohort by types of contact and by age, as percentages of N in each type of contact (See also Table C4)

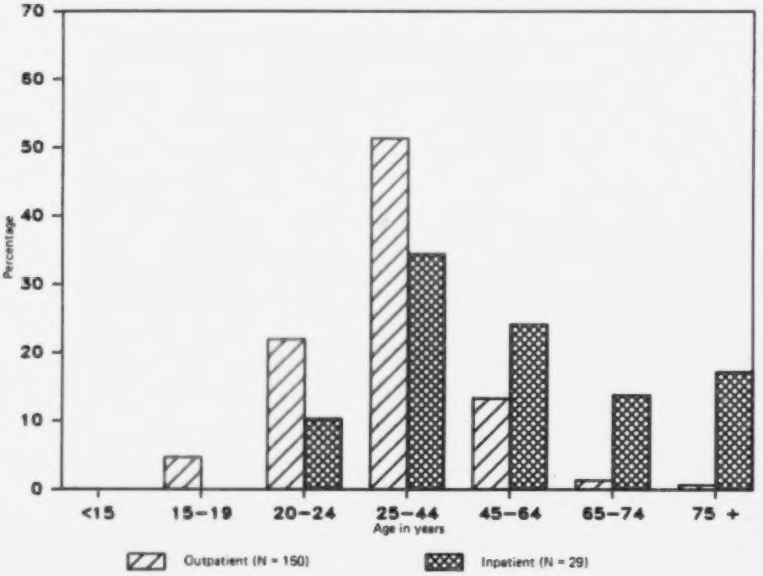


Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	1	8	1	1	51	33		15	8	32	150
Inpatient	8	4	2	1	4	9			1		29
Day patient		2			2	2					6
Total	9	14	3	2	57	44		15	9	32	185

[a] The following diagnostic groups have been used
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnositc group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7[c]	1–5	6–7	
Organic psychoses			11			84		11	89	9
Schizophrenia and paranoid states	14		21	7	7	36	14	50	50	14
Affective psychoses						33	67	0	100	3
Other psychoses	50					50		50	50	2
Neurosis and personality disorders	26	11	32	7	5	14	5	81	19	57
Alcohol and drug dependence	14	5	20	18	7	27	9	64	36	44
Mental retardation										
Other	13		40	27	13		7	93	7	15
No psychiatric diagnosis	56	11	11	11		11		89	11	9
Not known	38	9	31	16	6			100	0	32
Total	23	6	26	12	6	19	6	75	25	185

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 4 day patients and 3 night patients who have not been inpatients.

[c] Including 3 day patients and 1 night patient who have not been inpatients.

frequently admitted to inpatient care (50–100%). The larger number of outpatient contacts in the categories "schizophrenia and paranoid states" and "other psychosis" probably relates to patients in outpatient care after more than six months following discharge from hospital and/or patients admitted to a hospital not included in the study. It would be interesting to analyse their cases further. Patients with neurosis and personality disorders are mainly treated as outpatients, while 36% of those with alcohol or drug dependence were admitted as inpatients.

Percentage of patients and types of contact during the follow-up episodes of care

Table C7 and Fig. C3 show that 73% of the patients had no further contact six months after entry to the cohort. This percentage, though, is lower for patients with psychosis and alcohol or drug dependence and for those who were admitted to hospital at entry to the cohort. Since the cohort was followed up for a period of one year only, the "episodes of care" (in other area descriptions, Table C8) could not be analysed.

Caseload features

Table C9 shows clearly that the heaviest burden on the outpatient services comes during the first month, while the number of occupied beds and night places declines after three months. The number of occupied day places remains stable, with a slight increase from the third to the eighth week.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days*							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	0	0	0	11	44			9
Schizophrenia and paranoid states	21	36	36	43	50			14
Affective psychoses	0	0	0	0	0			3
Other psychoses	50	50	50	50	50			2
Neurosis and personality disorders	37	47	58	75	77			57
Alcohol and drug dependence	21	34	46	52	73			44
Mental retardation								
Other	33	33	40	53	73			15
No psychiatric diagnosis	67	78	89	89	89			9
Not known	44	50	59	78	88			32
Total	32	41	50	62	73	92	95	185

* The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

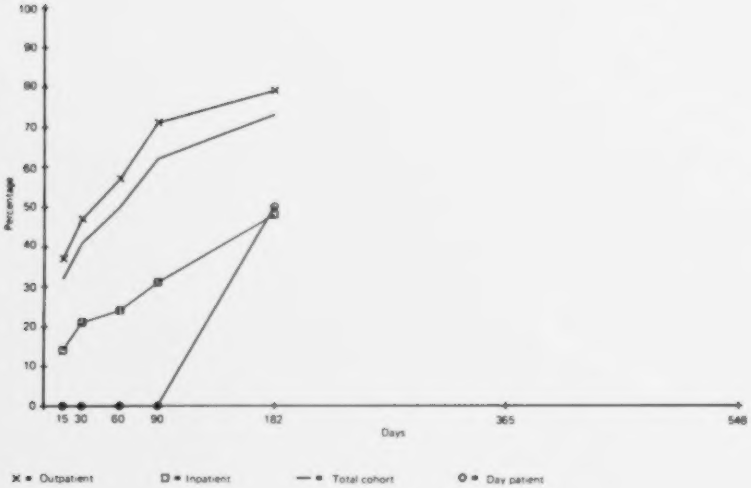


Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category[a]

Diagnosis	Episodes of care								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses									
Schizophrenia and paranoid states									
Affective psychoses									
Other psychoses									
Neurosis and personality disorders									
Alcohol and drug dependence									
Mental retardation									
Other									
No psychiatric diagnosis									
Not known									
Total									

[a] Episodes of care were not analysed because patients were followed up for one year only.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients			
	1	2	1 + 2	Outpatient	Day patient	Night patient	Beds
0–15	144	33	8	60.8	2.3	2.2	17.9
16–30	66	37	1	24.5	3.2	2.2	16.5
31–60	61	36		13.4	3.2	2.2	15.9
61–90	50	34		7.9	2.5	1.8	13.2
91–182	38	24	3	6.3	2.4	0.9	7.9
183–365	26	19	5	3.3	2.2	0.1	6.9
366–548							
549–730							
First year	137	30	18	8.9	2.3	0.8	9.3

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Randers, Denmark

The pilot study area

General and geographical information

The Randers pilot study area is situated in the northern part of the county of Aarhus, Jutland, Denmark. It consists of the municipality of Randers and the neighbouring six municipalities. Randers is an urban community, but the neighbouring municipalities are mainly rural.

Compared with the county of Aarhus, the Randers pilot study area is characterized by: (1).a lower rate of increase of the population; (2) less economic activity; (3) fewer public employees; (4) many disabled persons; and (5) considerable unemployment, including many young and long-term unemployed.

Randers is a typical Danish provincial town with good communications by both road and rail to nearby Aarhus, the second largest city in Denmark, and is within easy reach of its airport.

Sociodemographic profile

Population by sex, age and marital status

In 1978, the Randers pilot study area had a population of 114 854, with equal numbers of males (49.6%) and females (50.4%). Close to a quarter (23.7%) of the population are below 15 years of age and 13.5% are 65 years or over (12.2% of the males and 14.8% of the females). Of the younger age-group (25–44 years), 73.2% of the males and 82.9% of the females are married, and 5.2% of the males and 6.2% of the females divorced. Of the middle-aged (45–64 years), 83.3% of the males and 76.6% of the females are married, 11.6% of the females widowed, and 5.9% divorced. Of the elderly (65 years and over), 76% of the males and 38.9% of the females are married; of the females, 47.9% are widowed and 36% divorced (see Tables 1 and 2).

Employment and main economic activities

Of the 72 148 people aged 15–64 years, 50 233 (69.6%) are economically active (85.7% of the males and 53.4% of the females). In January 1979, 11.9% were unemployed, 7.9% were long-term unemployed, i.e. out of work for 26 weeks or more, and of the 15–24-year

Table 1. Population by sex and age, absolute and as a percentage of total population, 1978

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Absolute						
Males	13 902	8546	15 785	11 917	6936	57 086
Females	13 299	7982	15 267	12 651	8569	57 768
Total	27 201	16 528	31 052	24 568	15 505	114 854
Percentage						
Males	12.1	7.4	13.7	10.4	6.0	49.6
Females	11.6	7.0	13.3	11.0	7.5	50.4
Total	23.7	14.4	27.0	21.4	13.5	100.0

Table 2. Population by sex, age and marital status, 1978

Sex	Age	Marital status				Total
		Single	Married	Widowed	Divorced	
Males	<15	13 902				13 902
Females		13 299				13 299
Males	15–24	8054	481		11	8546
Females		6693	1245	1	43	7982
Males	25–44	3367	11 558	37	823	15 785
Females		1492	12 652	174	949	15 267
Males	45–64	1028	9930	366	593	11 917
Females		753	9690	1464	744	12 651
Males	≥65	513	4835	1364	224	6936
Females		816	3337	4104	312	8569
Males	Total	26 864	26 804	1767	1651	57 086
Females		23 053	26 924	5743	2048	57 768

age-group, 11.1% were unemployed. The corresponding figures for Aarhus county were 9.6%, 6.5% and 8.4%, and for Denmark as a whole 8%, 4% and 7.5% respectively.

The employment problems are connected with the economic structure of the area, which has mainly small firms and only a few larger ones, the latter predominantly in exporting industries vulnerable to international economic conditions. The existing industries have also not been able to absorb the manpower freed by structural changes in the agricultural sector.

Population distribution and housing

If the Danish definition of an "urban" area is used, i.e. a town with more than 250 inhabitants, 82.6% of the area population is urban and 19.4% rural. However, only Randers itself, with a population of 63662, can be considered urban while the surrounding communes are suburban/rural.

The housing situation in the area is relatively good. Piped water, electricity, telephones, etc. are available everywhere in the area. There is no overcrowding.

Main ethnic and religious groups

The majority of the population are Protestant Danes with only small numbers of refugees and foreign workers.

Indicators of social stability

No statistics are available for the pilot study area only, but the suicide rate in Aarhus county is approximately the same as that for Denmark as a whole, i.e. 2.7% of all male deaths and 2.1% of all female deaths. Measured by the increase in numbers of consultations (without any special effort on the part of the services), there has been a considerable increase in alcohol and drug dependence problems over the last ten years. Within the last few years, there have also been increases in the numbers of thefts, cases of damage to property and other forms of violent behaviour. It is believed that this is related to the high level of unemployment, especially among the young.

Health and welfare system

Health services

General health care in the pilot study area is not very different from that in Denmark as a whole. The local hospital has a total of 426 beds (1980). For the whole of the county of Aarhus, the number is 4640. Of these beds, 1073 are for psychiatry and 55 for child psychiatry. In a period of one year there were 471 427 outpatient consultations in Aarhus county, of which 12 726 were in psychiatry and 1661 in child psychiatry. Of the Randers Central Hospital's 426 beds, 25 are in the psychiatric departments. The total number of hospital beds for the whole of Denmark is 41 621 (1979). In some cases, patients from the pilot study area may go elsewhere, e.g. to the Aarhus University Hospital (one of the three centres for special surgery, etc.).

The costs of health services are paid by public funds and health insurance schemes. There is no difference in this respect between psychiatric disorders (except for persons aged over 65 years and receiving a pension) and somatic illness.

In the 1970s, the primary health care system accounted for about 1.3% of the gross national product. The total cost of the hospital system has been increasing. In the 1970s, the whole hospital system accounted for 3% of the gross national product (compared with about 19% for all public expenses). Private hospital services are very limited both in Denmark as a whole and in the pilot study area.

In the county as a whole, there were 329 general practitioners as of 1 October 1982. They work in 29 areas (which are not identical with the municipalities). Each general practitioner deals with an average of about 1300 health-insured persons. This is also true of the pilot study area.

The general health situation

Morbidity data are not available, but the following indicators of the health situation may be quoted. Although the birth rate has decreased rapidly since 1969, it was still slightly higher in 1979 in Aarhus county (12.5 per 1000) than in Denmark (11.7 per 1000). Infant mortality was slightly lower in Aarhus county (8.4 per 1000) than in Denmark (8.8 per 1000). General mortality was also slightly below the national average: in 1979, there were 11.0 male deaths per 1000 population in Aarhus county, as compared to 11.8 in Denmark, and 8.7 female deaths per 1000 population in Aarhus, as compared to 9.6 in Denmark (see Table 3). Expectation of life at one year of age was 71.1 for males and 76.7 for females in Denmark as a whole. Data on the five leading causes of death in Aarhus county are shown in Table 3, which also gives the corresponding figures for Denmark for purposes of comparison.

Table 3. Five leading causes of death, by sex, per 100 000 population, 1979

ICD code[a]	Cause of death	Males		Females	
		Aarhus county	All Denmark	Aarhus county	All Denmark
390–429	Diseases of the heart	410	440	282	317
140–209	Malignant neoplasms	245	276	216	249
430–438	Cerebrovascular diseases	78	92	92	102
470–493	Diseases of the respiratory system[b]	97	82	59	57
E800–E949	Accidents	44	46	30	31

[a] *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death*, 9th revision, Geneva, World Health Organization, 1977.

[b] Excluding ICD codes 460–466 and 500–519, as these diseases have not been reported for Aarhus county. They constitute about 7% of all "respiratory diseases".

The mental health services

Existing facilities

The general tendency in the Danish health care system, for both psychiatric and somatic disease, has been to decrease inpatient care, increase outpatient care and develop other support mechanisms. Because of economic and other constraints, the last of these has not been possible and, as shown below, the increase in outpatient care has not led to a significant fall in inpatient care. The following services are available to the pilot study area and have been included in this study (other services, such as a psychiatric health nurse, a hostel for special groups of young psychiatric patients, etc., are available but of no importance in this regard):

—outpatient clinics;
—alcohol clinic;
—psychiatric inpatient departments;
—psychiatric consultations;
—private psychiatric specialists;
—psychiatric day patient care.

The psychiatric outpatient clinics include both the clinic of the Randers General Hospital and an outpatient clinic belonging to the Psychiatric Hospital at Risskov, together with an aftercare outpatient clinic in Randers. The alcohol clinic is an outpatient clinic for alcoholics at the Randers General Hospital. Psychiatric inpatient departments include the following: the Psychiatric Hospital, Risskov, the psychiatric department of the Randers General Hospital, and the neurosis sanatorium of Jutland (Vejlefjord). Psychiatric consultations include all visits by psychiatrists to the somatic wards of the Randers General Hospital (including a long-term institution functioning as a nursing home). Four psychiatrists in private practice have offices in the area.

Patient census and cohort study

Patient census

All patients from the Randers area who were receiving psychiatric treatment on 1 March 1977 (the census day) were included. Basic demographic data, diagnostic information and a contact pattern were collected for each patient.

On census day, the total population of the area was 114 650, including 87 108 persons aged 15 years or over; 715 persons over 15 years of age received psychiatric treatment. The proportion of males and females receiving psychiatric treatment was 8.40 and 8.05 per 1000 population respectively.

On census day, 8.2 persons per 1000 population were receiving psychiatric treatment. Of these, 1.3 persons per 1000 population were in psychiatric nursing homes, 1.3 per 1000 population in inpatient hospital departments, and 5.6 per 1000 population receiving outpatient treatment; of the last named, 0.7 per 1000 population were being treated by private psychiatrists. With regard to age and diagnostic distribution, the patients treated by private psychiatrists did not differ from those treated at outpatient clinics, except that there were slightly more patients with manic-depressive psychosis and slightly fewer with schizophrenia.

Of the outpatients, 36.9% attended the alcohol clinic, 18.3% attended psychiatric outpatient clinics, and 8.4% were treated by psychiatrists in private practice. Outpatient treatment was provided to 16.1% in inpatient departments, 15.9% in psychiatric nursing homes, 4.3% in day hospitals, and 0.1% in somatic wards.

The largest group of males attended the alcohol clinic, and the largest group of females the psychiatric outpatient clinics (see Table 4). Long-term outpatient treatment was provided mainly in the alcohol clinic, predominantly to younger males (81.8%) and females (18.2%). Long-term inpatient care was provided to older (female) patients with a preponderance of senile and organic disorders.

The census shows that it has not been possible to avoid long-term hospitalization despite increasing emphasis on outpatient services. With the increase in life expectancy, the number of patients receiving long-term treatment is likely to increase. The present study concentrated on patients receiving continuous treatment within the same kind of service. A 1976 study, for instance, found that an increase in outpatient activity did not result in a decline in the number of admissions.[a]

Description of cohort

The cohort included all patients aged 15 years and over from the Randers pilot study area, who entered the services of the area between 1 January and 31 March 1980 and who had not been in contact with the services for at least six months prior to such entry.

By means of the central psychiatric register, it was also possible to follow up the very small number of patients from the pilot study area who were admitted to inpatient or day care services outside Aarhus county (except for one or two who were admitted to services in Copenhagen county).

No data on the marital status of the cohort patients have been given, as a large proportion of them, although living with a person of the opposite sex, have not gone through a marriage ceremony.

The cohort included 283 patients made up of 117 (41.3%) males and 166 (58.7%) females. The majority were in the younger age-group (25–44 years) or middle-aged (45–64 years). The largest diagnostic group was that of neurosis and personality disorders (41%), 30.8% of the males and 48.8% of the females being in this group; for 20%, the diagnosis was alcohol and drug dependence (36.8% of the males and 7.8% of the females), 13% had affective psychoses, and 7% had organic psychoses. Schizophrenia and paranoid states were uncommon (2.5%).

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[a] **Kastrup, M. et al.** Psychiatric treatment in a delimited population—with particular reference to outpatients. A demographic study. *Acta psychiatrica scandinavica*, **53**: 35–50 (1976).

Table 4. Census: the 601[a] patients according to type of service and main diagnoses (percentages)

Diagnosis[b]	Psychiatric outpatient clinics		Private psychiatrists		Alcohol clinic		Psychiatric day patients		Psychiatric inpatient departments	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Senile psychosis and cerebrovascular psychosis (290, 293)	2.0	—	4.0	—	—	—	—	—	25.0	22.2
Other organic psychoses (292, 293, 294, 309)	—	—	—	—	—	—	—	—	15.4	4.8
Schizophrenia (295)	18.4	3.7	—	8.6	—	—	7.1	—	26.9	11.1
Manic-depressive psychosis (296)	26.5	35.4	52.0	42.9	—	—	7.1	17.6	7.7	20.6
Other functional psychoses (298)	10.2	6.1	—	11.4	—	—	14.3	11.7	7.7	4.8
Neuroses (300, 305, 308)	24.5	28.0	20.0	20.0	0.9	2.1	35.7	47.1	3.8	12.7
Personality disorders (301, 302, 308.01)	12.2	17.1	12.0	14.3	2.3	2.1	14.3	23.5	—	3.2
Addiction (291, 303, N980.09, 304)	2.0	—	—	—	95.8	93.8	7.1	—	7.7	1.6
Other diagnoses (297, 298.99, 299, 306, 307, 308, 793)	4.1	9.8	12.0	2.9	0.9	2.1	14.3	—	5.8	19.0
Total	99.9	100.1	100.0	100.1	99.9	100.1	99.9	99.9	100.0	100.0
Absolute number	49	82	25	35	216	48	14	17	52	63

[a] The 114 patients in psychiatric nursing homes are not included

[b] ICD codes are shown in parentheses

Table C1. Cohort by sex, age and marital status,* in percentages of total cohort (N = 283) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15-19	20-24	25-44	45-64	65-74	75-84	>85	
Single	M									
	F									
Total										
Married	M									
	F									
Total										
Widowed	M									
	F									
Total										
Divorced/ separated	M									
	F									
Total										
Not known	M									
	F									
Total										
Total	M		1.1	5.3	19.8	10.6	3.5	1.1		41.4
	F		1.4	3.9	27.6	16.6	6.4	1.4	1.4	58.7
Grand total			2.5	9.2	47.4	27.2	9.9	2.5	1.4	100.1

* No information is given on marital status for the reason explained in the text.

Types of contact at first entry

By far the largest number (250) entered the cohort as outpatients (See Table C4). Of these, 42% entered through private psychiatrists, 22% through the psychiatric outpatient clinic, 22% from psychiatric consultations in general hospital wards, and 14% through the alcohol clinic.

Of the 33 patients entering as inpatients, the females were older than the average, and for all types of care the females were slightly older than the males. The patients entering the alcohol clinic were younger than the other outpatients. No patients entered as day patients, which is in accordance with the general practice of the services, day care being normally only given as a follow-up to inpatient care.

Fig. C1. Cohort by age and sex,
in percentages of total cohort (N = 283)
(See also Table C1)

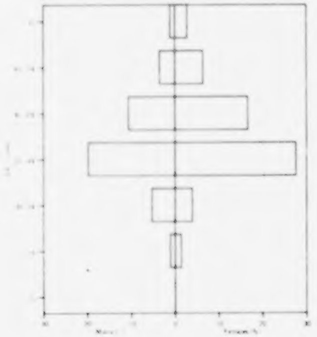

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M		2	2	5	9
	F		1	3	7	11
Total			3	5	12	20
Schizophrenia and paranoid states	M	1	1			2
	F			3	2	5
Total		1	1	3	2	7
Affective psychoses	M		6	5	4	15
	F	3	6	4	8	21
Total		3	12	9	12	36
Other psychoses	M		2	1	1	4
	F	1	6	6	2	15
Total		1	8	7	3	19
Neurosis and personality disorders	M	9	17	10		36
	F	6	50	22	3	81
Total		15	67	32	3	117
Alcohol and drug dependence	M	8	26	9		43
	F	1	8	4		13
Total		9	34	13		56

Table C2. (*Contd.*)

Diagnosis	Sex	Age in years				Total
		<25	25-44	45-64	≥65	
Mental retardation	M		1			1
	F	1	1	1		3
Total		1	2	1		4
Other	M		1		3	4
	F		2	2		4
Total			3	2	3	8
No psychiatric diagnosis	M			3		3
	F	3	4	2	4	13
Total		3	4	5	4	16
Total	M	18	56	30	13	117
	F	15	78	47	26	116
Grand total		33	134	77	39	283

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	117	88.9	11.1
Females	166	88.0	12.0
Total	283	88.3	11.7

Types of contact during the first year

Table C6 shows that 27% had one outpatient contact only and that 67% of the cohort only received outpatient care. Of the 33% receiving both inpatient and outpatient care, 33 were neurotics, 19 were alcoholics, 11 had affective psychoses and 11 had organic psychoses.

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

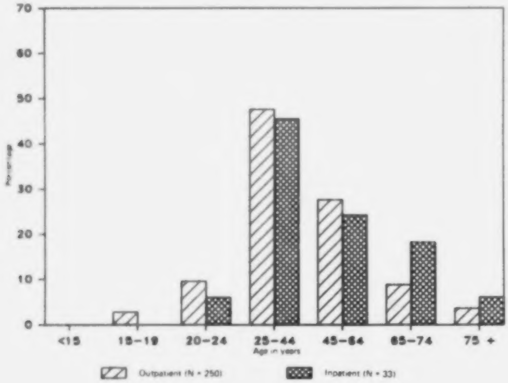

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Outpatient		7	24	119	69	22	5	4	250
Inpatient			2	15	8	6	2		33
Total		7	26	134	77	28	7	4	283

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	15	6	32	17	108	46	4	7	15		250
Inpatient	5	1	4	2	9	10		1	1		33
Total	20	7	36	19	117	56	4	8	16		283

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7[c]	1–5	6–7	
Organic psychoses	40	5				55		45	55	20
Schizophrenia and paranoid states	29					14	57	29	71	7
Affective psychoses	8	6	25	31		8	22	69	31	36
Other psychoses	11		11	26	5	11	37	53	47	19
Neurosis and personality disorders	26	11	14	21	1	9	19	72	28	117
Alcohol and drug dependence	30	4	18	14		18	16	66	34	56
Mental retardation	75					25		75	25	4
Other	25		25	13	13	13	13	75	25	8
No psychiatric diagnosis	63	6	13	6		6	6	87	13	16
Total	27	7	15	18	1	15	18	67	33	283

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 2 day patients who have not been inpatients.

[c] Including 8 day patients who have not been inpatients.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	55	60	70	70	75	80	90	20
Schizophrenia and paranoid states	29	29	43	43	43	57	71	7
Affective psychoses	19	28	33	44	67	78	83	36
Other psychoses	11	21	26	26	42	63	84	19
Neurosis and personality disorders	34	38	47	56	70	85	91	117
Alcohol and drug dependence	36	41	48	50	59	68	79	56
Mental retardation	100	100	100	100	100	100	100	4
Other	50	63	63	63	88	100	100	8
No psychiatric diagnosis	63	75	81	81	88	88	88	16
Not known								
Total	35	41	49	54	67	79	87	283

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentage of N in each diagnostic category

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	45.0		35.0	10.0			10.0		20
Schizophrenia and paranoid states	28.6	14.3		14.3		42.9			7
Affective psychoses	55.6	11.1	2.8	13.9	2.8	8.3	5.6		36
Other psychoses	31.6	21.1	5.3	10.5	10.5	21.1			19
Neurosis and personality disorders	56.4	19.7	7.7	4.3	3.4	6.8	1.7		117
Alcohol and drug dependence	62.5	5.4	17.9			12.5	1.8		56
Mental retardation	75.0					25.0			4
Other	62.5	12.5	25.0						8
No psychiatric diagnosis	81.3	6.3				6.3	6.3		16
Total	56.2	13.1	10.6	5.3	2.5	9.5	2.8		283

[*] Episodes of care

1 = **Outpatient, short**
Some outpatient contacts, but no "long episode".

2 = **Outpatient, medium or long but not chronic**
One long episode. The different types of long episodes are characterized by the following averages

	Type 1	*Type 2*	*Type 3*
Number of events	10	27	9
Length	122 days	502 days	184 days
Average interval between two events	15 days	20 days	25 days
Maximum interval	29 days	66 days	58 days
Concentration	0.30	0.36	0.43

or
one "stay" in day hospital, of less than 200 days; *or*
one stay in day hospital *and* one long episode.

3 = **Inpatient, short**
One stay in hospital, of less than 40 days.

4 = **Inpatient, medium or long but not chronic**
One stay in hospital, of between 40 and 365 days.

5 = **Mixed types of care, short**
Stays in hospital and/or day hospital, and outpatient episodes. When the episode is long, it belongs to type 1 above (see 2). The length of the stays does not exceed 40 days.

6 = **Mixed types of care, medium or long but not chronic**
Stays in hospital and/or day hospital, and outpatient episodes. When the episode is long, it belongs to types 1 or 3 above (see 2). The length of the stays does not exceed 130 days.

7 = **Chronic**
Stay in hospital; *or* stays in hospital and day hospital, and outpatient episodes } length of stay in hospital is more than 500 days or with short time intervals without care between admissions

8 = **Not classified elsewhere**
No patient.

Percentages of patients and types of contact during the follow-up episodes of care

Tables C7 and C8 and Fig. C3 show that, after 60 days, 49% of the cohort had no further contact with the services and that, after one year, only 21% were still receiving care. More than half (56%) received only outpatient care of short duration, and only 2.8% (eight patients) became chronic users. Of the latter, two were suffering from organic psychoses, two from affective psychoses, two from neurosis and personality disorders, one was an alcoholic and one had no psychiatric diagnosis.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

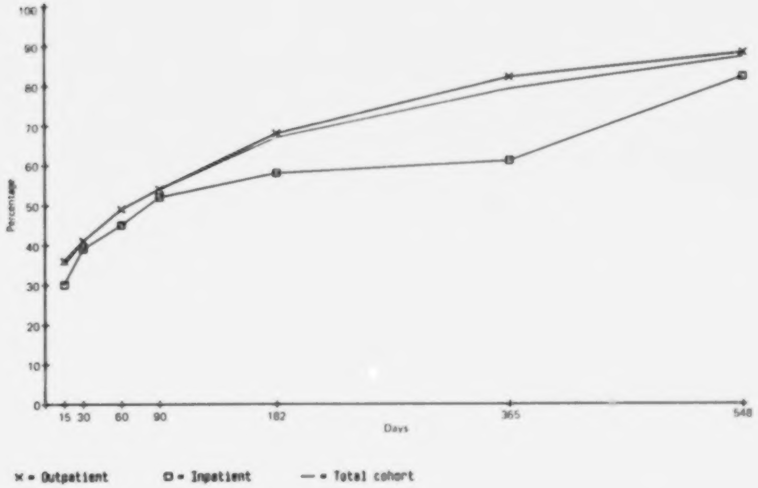

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	233	31	18	62.8	0.02	9.9
16–30	67	31	3	14.1	1.3	7.1
31–60	77	37	9	10.1	1.2	5.6
61–90	54	26	5	7.1	1.9	5.1
91–182	54	24	13	4.2	2.1	3.0
183–365	43	15	11	3.0	0.9	2.1
366–548	22	17	11	1.5	1.0	1.7
549–730	25	6	6	1.3	0.4	1.2
First year	190	26	67	7.1	1.3	3.4
Second year	29	15	15	1.4	0.7	1.5
First and second year	187	23	73	4.2	1.0	2.4

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care, 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Caseload features

The heaviest burden on the services clearly comes during the first two weeks after entry (Table C9). Measured in number of contacts per beds occupied per week per 100 patients, the burden on the services decreases steadily thereafter.

Tampere, Finland

The pilot study area

General and geographical information

The Tampere pilot study area is geographically identical with the North Häme mental health district. It is composed of 20 municipalities in Häme county and of three in Turku-Pori county. In 1978, the total population was 321 320 in an area of 8606 km^2, giving a mean population density of 37.3 inhabitants per km^2.

Based on the population density, and degree of industrialization and urbanization, the municipalities can be divided into the following four groups, nearly 80% of the population of the pilot study area living in the first two of them:

(1) Tampere and Mänttä: two urban centres in the area whose population is increasing. Tampere is the central municipality of the area both economically and administratively. Its population in 1978 was 165 519, and the average density 316 per km^2. Mänttä, at the north-eastern edge of the area, had a population of 8035 and an average density of 131 per km^2.

(2) Other municipalities whose population is increasing: one town (Nokia) and five suburbs (Kangasala, Lempäälä, Pirkkala, Viiala and Ylöjärvi). The population in 1978 was 80 877 and the mean density 62.8 per km^2. These municipalities surround Tampere from the west, south and east and are closely linked with it.

(3) More distant municipalities: two towns (Ikaalinen and Parkano) and seven rural municipalities (Juupajoki, Kuorevesi, Orivesi, Pälkäne, Ruovesi, Sahalahti and Vilppula). Their population is decreasing slightly; in 1978, it was 51 053 and the mean density was 11.5 per km^2.

(4) Rural municipalities at the periphery of the pilot study area (Kihniö, Kuhmalahti, Kuru, Luopioinen, Längelmäki and Vesilahti), whose population is decreasing; in 1978, it was 15 818 and the mean density was 6.9 per km^2.

Communications with Tampere within the area are relatively good, and include public transportation. In contrast, services between the neighbouring municipal areas and to the peripheral areas within the municipalities are poor. The numerous large lakes make these communications very difficult.

Sociodemographic profile

Population by sex, age and marital status

Tables 1 and 2 show the relevant data on the population of the area in 1975. The proportion of women (52.5 %) is slightly greater than in the whole country (51 %). The proportions of children (21 %), pensioners (11 %) and people of working age (68 %) are nearly the same as in the total population of the whole country, while 14 % of the women and 9 % of the men are over 65 years of age. Of the adult males, 61 % are married, and of the adult females, 54 %. The percentage of the widowed

Table 1. Population by sex and age, absolute and as a percentage of total population, 1975

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Males	33 891	26 942	47 339	30 944	13 032	152 148
Females	32 356	26 313	46 677	39 360	23 554	168 260
Total	66 247	53 255	94 016	70 304	36 586	320 408
Percentage						
Males	10.6	8.4	14.8	9.6	4.1	47.5
Females	10.1	8.2	14.6	12.3	7.3	52.5
Total	20.7	16.6	29.4	21.9	11.4	100.0

Table 2. Population by sex, age and marital status, 1975

Sex	Age	Marital status				Total
		Single	Married	Widowed	Separated/ divorced	
Males	<15	33 891				33 891
Females		32 356				32 356
Males	15–24	23 709	3 233			26 942
Females		19 735	6 315		263	26 313
Males	25–44	10 415	34 084		2840	47 339
Females		7 468	35 008	467	3734	46 677
Males	45–64	2 476	25 683	928	1857	30 944
Females		5 117	25 190	5904	3149	39 360
Males	≥65	1 043	9 378	2123	488	13 032
Females		4 783	6 549	10 963	1259	23 554
Males		71 534	72 378	3 051	5 185	152 148
Females		69 459	73 062	17 334	8 405	168 260

is greater among the women in all age-groups. The divorced or separated account for 6 % of females and 4 % of males (aged 15 years or over).

Employment and main economic activities

According to the 1975 census data, the economically active population of the area is 46.9 % of the total (45 % for the whole country). The proportion of industrial workers is relatively high, namely 46.3 % (35.6 % in the whole country).

Of the economically active population of Tampere and Mänttä, about half are employed in industry and the other half in services. In the municipalities of group 2, the situation is nearly the same. In group 3, where 44 % of the population is economically active, 22–38 % work in agriculture and forestry. The corresponding figures for group 4 municipalities are 42 % and 40–58 %.

After 1975, the number of jobs even in the central municipalities decreased. In 1979, the unemployed amounted to 6.3 % of the economically active population (5.6 % in the whole country). Unemployment was particularly serious among young people, namely 10.4 % in the age-group 16–24 years.

The major industries include paper and metal, rubber, electrical engineering, chemicals, printing, plastics, textiles, clothing, and foodstuffs. The industries are centred in the Tampere area (including Nokia town and some other surrounding municipalities) and in Mänttä.

Population distribution and housing

Approximately 66 % of the population live in urban areas, as described above. The standard of housing is quite high.

In the whole pilot study area, there were 0.85 persons per room. Piped water was available in 91.6 % of the households, 86.5 % had indoor flush toilets and 82.5 % had central heating systems or electrical heating. Many families in urban areas and almost all families in rural areas also had saunas.

Main ethnic and religious groups

There are no minority groups of any significance within the area.

Indicators of social stability

Social stability in the area is similar to that for the country as a whole. The number of divorces has nearly doubled in the last ten years; the number of marriages has decreased by about a quarter. In 1977, there were 6.7 marriages per 1000 population, 2.4 divorced per 1000 population and 357 divorces per 1000 marriages. In 1975, the suicide rate was 2.4 per 10 000 population (males 3.9 and females 1.1). In the entire country, the suicide rate was 2.5 per 10 000 population. The number of suicides increased in the 1970s among young men; the rate is positively correlated with periods of economic depression.

Approximately 1 % of the Tampere and Mänttä residents and 0.5 % of the suburban and rural residents attend the alcohol clinics, but the number of problem drinkers is estimated to be ten times greater. The proportion of females among the clients is 19 % and has been increasing in the last few years.

The crime rate for violent offences (homicide, murder, assault and battery, and attempted homicide) in 1978 was 2.45 per 1000 population (2.62 in the whole country). The level of juvenile (15–19-year age-group) delinquency in Häme county in 1978 was 58 per 1000 population (drunk driving 8.2, assault and battery 6.2, robbery 1.2, and theft and pilferage 42.4). It is estimated that juvenile delinquency in the whole country was slightly higher. In 1978, 0.9 per 1000 population were in prison, the corresponding national figure being 1.1 per 1000 population.

Health and welfare system

The entire population is covered by sickness insurance. All inpatient care is practically free of charge for the patient, while sickness insurance covers 60 % of the physician's fee, 50 % of the cost of medicines (100 % in cases of chronic illness) and part of the patient's travel costs for consultations and visits. If the patient is without financial resources, the local authorities will pay his share of the costs.

Health services are provided by municipalities under the supervision of the National Board of Health, assisted by the Provincial Board. Hospitals and outpatient facilities are maintained either by individual municipalities or associations of municipalities, which also have to make five-year plans for the development of health care services and up-date them annually.

Under the law on public health, the community health centre is primarily responsible for health. Each centre has a number of health teams working under the guidance of a general physician and providing preventive, therapeutic and rehabilitative care. The network of community health centres forms the primary level of the health care system.

The laws on municipal general hospitals and the law on university central hospitals govern special services forming a step-wise health care system. The country is divided into 21 central hospital districts, each central hospital covering all medical specialties. In addition, there are regional hospitals which cover the most important specialties. Central hospitals and regional hospitals, with their outpatient clinics, form the secondary level of the health care system (the special services level). Five of these central hospitals are also university central hospitals (Helsinki, Turku, Tampere, Kuopio, Oulu). Their catchment areas cover the whole country, and this network forms the tertiary level of the health care system.

Health services

The Tampere pilot study area is included in the Tampere university central hospital district. The health care available within the pilot study area is shown in Tables 3–5.

Table 3. Inpatient services available within the pilot study area, 1978

Type of service	Number	Beds	Beds per 1000 population
General hospitals and hospitals of health centres under the guidance of specialists	5	2110	6.57
Infirmaries of health centres	7	344	1.07

Table 4. Outpatient services available within the pilot study area, 1978

Type of service	Number of visits	Visits per 1000 population
Outpatient visits to general hospitals	177 768	553.5
Physician visits at health centres	420 300	1308.8

Table 5. Health personnel available within the pilot study area, 1978

Type of personnel	No. of posts	Posts per 1000 population
Physicians	216	0.67
Specialized and head nurses	765	2.38
Public health nurses	254	0.79
Psychologists	9	0.03
Social workers	19	0.06

The general health situation

The death rate for the area in 1980 was 9.72 per 1000 population, which is slightly more than that for the whole country (9.3 per 1000 population). Infant mortality was 7.56 per 1000 live births, and this is the same as in the country (7.6 per 1000 live births). Life expectancy at one year of age in 1977 was 67.5 for males and 76.2 for females, not significantly different from the national figures.

The five leading causes of death (which were the same as in the whole country) in Häme county in 1978 were myocardial infarction, cerebrovascular disorders, pulmonary carcinoma, other cardiac diseases and other malignant neoplasms. The first two were the same for both sexes, the third for males was pulmonary or bronchial cancer and for females other cardiac diseases, the fourth for males was other cardiac diseases and for females other malignant neoplasms, the fifth for males was other malignant neoplasms and for females other vascular (arterial) disorders.

Mental health services

The Mental Health Act of 1952 made the municipalities responsible for the mental health services, which consisted of mental hospitals and mental health offices. The country was divided into 21 mental health districts. Each district had to have a central hospital and a mental health office, but could also have other mental hospitals. The Mental Health Act of 1978 amended the 1952 Act and broadened the system to include outpatient clinics, night and day hospitals, hostels, sheltered workshops and other forms of rehabilitation. It also made it possible to set up psychiatric outpatient and inpatient services in general hospitals and assigned some psychiatric responsibilities to community health centres. All the above-mentioned activities are carried out under the supervision of the National Board of Health. The Act does not usually make alcoholism or mental retardation the responsibility of the mental health services since they are dealt with by the National Board of Social Welfare. The cost of services is covered by municipalities or associations of municipalities, which receive state subsidies, the amount of the subsidy depending on the financial status of the municipality. The entire population is covered by sickness insurance, and there is a national system of pensions for loss of working capacity, applicable to both somatic and psychiatric diseases. Certain mental illnesses entitle patients to free medication, and the treatment given by the mental health offices is free. Those patients who are able to pay are charged a fairly small sum per day for hospital care and a small fee for a consultation at a health centre. The social security system is also well developed in other respects.

Existing facilities

The pilot study area contains one central mental hospital (Pitkäniemi hospital), three other mental hospitals (Hatanpää psychiatric hospital, Pirkanmaa hospital and Keijärvi hospital) and six mental health offices for outpatients. In addition to these statutory services, there is a private association (the Sopimusvuori Association) which operates an integrated social psychiatric rehabilitation system with day homes, hostels, a sheltered workshop and rehabilitation homes. The services available are shown in Tables 6 and 7.

Table 6. Mental health services available within the pilot study area, 1978

Type of service	Number	Beds or places	No. per 1000 population
Inpatient services			
Psychiatric hospitals	4	1289	4.02
Psychiatric units in general hospitals	2	108	0.34
Mental wards in municipal homes	2	49	0.15
Sopimusvuori services			
Rehabilitation homes in Tampere	4	58	0.20
Rehabilitation home in Nokia	1	9	
Hostels	18	49	0.15
Day home	1	30	0.09
Sheltered workshop	1	60	0.19

Table 7. Mental health personnel available within the pilot study area, 1978

Type of personnel	Number	No. per 1000 population
Physicians	38	0.11
Specialized and head nurses	132	0.40
Mental nurses	343	1.06
Psychologists	14	0.04
Social workers	19	0.06
Psychiatrist in private practice	12	0.04

Outpatient services are provided by the North Häme mental health centre, which dealt with 28 086 visits in 1978, or 87.4 per 1000 population.

In addition to these services which, with the exception of the Sopimusvuori services, are owned by municipalities or associations of municipalities (and although the Sopimusvuori services are private, they are strongly supported by state and municipal funding), there are additional services, under the auspices of the National Board of Social Welfare, working in the field of psychiatry. These comprise child guidance clinics in Tampere and Mänttä, services for the mentally retarded providing inpatient, day patient and outpatient care, as well as sheltered workshops, training schools and hostels and a number of services for alcoholics.

Most of the above facilities are located in or near Tampere.

Patient census and cohort study

Patient census

Census day was 13 December 1979. Only inpatients and day patients were counted. All psychiatric hospitals (the Pitkäniemi, Hatanpää, Pirkanmaa and Keijärvi hospitals), day hospitals (in Hatanpää) and rehabilitation homes, the day home as well as the therapeutic workshop (Sopimusvuori) were included. In all, 1516 inpatients and 109 day patients were occupying a bed or a place at the time of the census. The corresponding figures in the first pilot study area census in 1973 were 1442 and 120.

The inpatient one-day prevalence rate per 1000 population in 1979 was 4.7, and the corresponding rate for day care patients was 0.3.

In the inpatient group, females outnumbered males, accounting for 57%, the difference being due to the preponderance of females aged 65 years or over. Among the population as a whole, the percentage of females is 52.5. These trends were the same in 1973, but in 1979 the inpatients were clearly older than six years before. In 1979 about 41% (34% in 1973) fell into the age-group 65 years or over. In the day patient group, the position was essentially the same. The diagnosis of schizophrenic syndrome or paranoid state was recorded for 51% of the inpatients in both 1979 and 1973. The group of dementias and organic psychoses increased from 18% in 1973 to 23% in 1979. The depressive psychoses also show a rising trend. All other diagnostic groups are slightly smaller than six years earlier.

Of the day patients, 57% were suffering from schizophrenia, and affective psychoses and neurotic depressions were also more common among day patients than among inpatients. The same situation was seen in 1973.

Loneliness was a highly marked characteristic of both inpatients and day patients. The proportion of unmarried persons was about 60%, with a predominance of single males. Of the elderly females 23% were widowed in 1979; the corresponding figure in 1973 was 19%. Young and middle-aged females were also slightly in the majority among those divorced or separated.

In the schizophrenic group, 85% of the males and 68% of the females were single, and 9% of the males and 18% of the females were divorced or separated.

In the group of dementias and organic psychoses, only 15% of the females and 37% of the males lived with their spouses.

Most of the divorced patients were alcoholics or drug abusers or had a diagnosis of personality disorder.

The data for length of stay show that there are still great problems in the rehabilitation of patients suffering from schizophrenic syndromes, 54% of such patients having been in hospital for five years or more and 13% for two to five years.

As in 1973, length of stay increased in 1979 fairly systematically with age in all diagnostic groups. There were more long-stay patients among the males. Low educational level correlated positively with length of stay. Residence in sparsely populated, agricultural and depopulated municipalities also correlated positively with longer periods of hospitalization in this census. It should be emphasized, however, that elderly widowed and single females from towns, in particular, were over-represented among the inpatients. It is also known that psychogeriatric patients fairly seldom make use of psychiatric outpatient services. The need for home care, home visits, day care and hostel facilities is sharply brought out by the figures for the lonely, long-stay, urban patients, particularly in the older age-groups.

Of all inpatients, 13 % were in hospital care involuntarily. In 1973, the proportion of such patients was about 45 %. This change is largely due to the amendment of the mental health law in 1978, but also reflects the alteration in the attitudes of health personnel towards hospital admission and care (see Table 8).

Table 8. Census of inpatients by age, sex and diagnosis

Diagnosis	Sex	Age in years				Total
		<24	25–44	45–64	≥65	
Organic psychoses	M		4	23	96	123
	F		5	15	209	229
Total			9	38	305	352
Schizophrenia and paranoid states	M	24	131	136	77	368
	F	20	97	162	126	405
Total		44	228	298	203	773
Affective psychoses	M	2	6	3	6	17
	F		9	13	21	43
Total		2	15	16	27	60
Other psychoses	M	4	4	4	1	13
	F	4	3	6	7	20
Total		8	7	10	8	33
Neurosis and personality disorders	M	9	19	6	6	40
	F	12	11	23	17	63
Total		21	30	29	23	103
Alcohol and drug dependence	M		5	5	1	11
	F		1	3		4
Total			6	8	1	15

Table 8. (*Contd.*)

Diagnosis	Sex	Age in years				Total
		<24	25–44	45–64	≥65	
Mental retardation	M					
	F					
Total						
No psychiatric diagnosis	M					
	F					
Total						
Other	M	10	17	34	16	77
	F	2	18	34	37	91
Total		12	35	68	53	168
Not known	M	2			1	3
	F	2	6	1		9
Total		4	6	1	1	12
Total	M	51	186	211	204	652
	F	40	150	257	417	864
Grand total		91	336	468	621	1516

Description of cohort

For the cohort, 100 consecutive patients entering the mental health centre in Tampere and 100 consecutive patients entering the central mental hospital (Pitkäniemi) were collected between 10 March and 20 June 1975. All the patients were residents in the pilot study area who had not been in contact with the services for at least six months prior to entry and who were 15 years or over. When the cohort was checked, it was found that nine female inpatients with psychosis did not satisfy these criteria and they were therefore excluded. The cohort thus consists of 191 patients. Of the outpatients, 50 were urban residents and 50 were rural residents.

Tables C1 and C2 and Fig. C1 show that the proportion of single, widowed and divorced or separated patients was larger than in the general population, especially in the younger age-groups. The preponderance of females (61.8%) was mainly due to the outpatients, and supports the impression gained from the mental health centre that women are more disposed to use outpatient services.

The most important diagnostic categories were neurosis and personality disorders (45.5%–37% of the males and 51% of the females), schizophrenia and paranoid states (21.5%–19% of the males and 23%

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 191) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		< 15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M		1.0	3.7	6.3	3.1				14.1
	F		2.6	7.3	5.8	3.7	1.0			20.4
Total			3.7	11.0	12.0	6.8	1.0			34.6
Married	M			0.5	8.9	6.3	2.1			17.8
	F			3.1	14.7	11.0	1.6			29.3
Total				3.7	23.6	17.3	3.7			47.1
Widowed	M					1.0				1.0
	F				1.0	2.1	1.6	0.5		5.2
Total					1.0	3.1	1.6	0.5		6.3
Divorced/ separated	M				3.1	2.1				5.2
	F			0.5	4.2	1.6	0.5			6.8
Total				0.5	7.3	3.7	0.5			12.0
Total	M		1.0	4.2	18.3	12.6	2.1			38.2
	F		2.6	11.0	25.7	17.3	4.7	0.5		61.8
Grand total			3.7	15.2	44.0	29.8	6.8	0.5		100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		< 25	25–44	45–64	≥ 65	
Organic psychoses	M		3	2	1	6
	F		1	5	3	9
Total			4	7	4	15
Schizophrenia and paranoid states	M	2	8	4		14
	F	5	10	8	4	27
Total		7	18	12	4	41
Affective psychoses	M		2	1		3
	F		2	2		4
Total			4	3		7

Table C2. (*Contd.*)

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Other psychoses	M		1	2		3
	F		2	2		4
Total			3	4		7
Neurosis and personality disorders	M	6	12	7	2	27
	F	15	28	16	1	60
Total		21	40	23	3	87
Alcohol and drug dependence	M	1	8	5	1	15
	F	1	1			2
Total		2	9	5	1	17
Mental retardation	M			1		1
	F					
Total				1		1
Other	M	1		1		2
	F	1	2		2	5
Total		2	2	1	2	7
No psychiatric diagnosis	M			1		1
	F		1			1
Total			1	1		2
Not known	M		1			1
	F	4	2			6
Total		4	3			7
Total	M	10	35	24	4	73
	F	26	49	33	10	118
Grand total		36	84	57	14	191

of the females) followed by alcohol and drug dependence (8.9%–21% of the males and 2% of the females) and organic psychosis (7.9%–8% of the males and 8% of the females). The largest age-groups were 25–44 years (44%) and 45–64 years (30%), while 7% were 65 years or over and 19% were 25 years or younger.

Types of contact at first entry

In view of the way in which the cohort was selected, it is not surprising that nearly equal numbers entered as outpatients and inpatients. The

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 191)

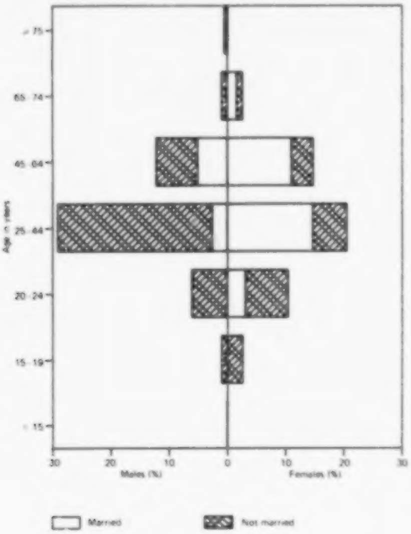

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	73	45.2	54.8
Females	118	56.8	43.2
Total	191	52.4	47.6

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	< 15	15–19	20–24	25–44	45–64	65–74	75–84	≥ 85	
Outpatient		6	22	46	21	4	1		100
Inpatient		1	7	38	36	9			91
Total		7	29	84	57	13	1		191

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

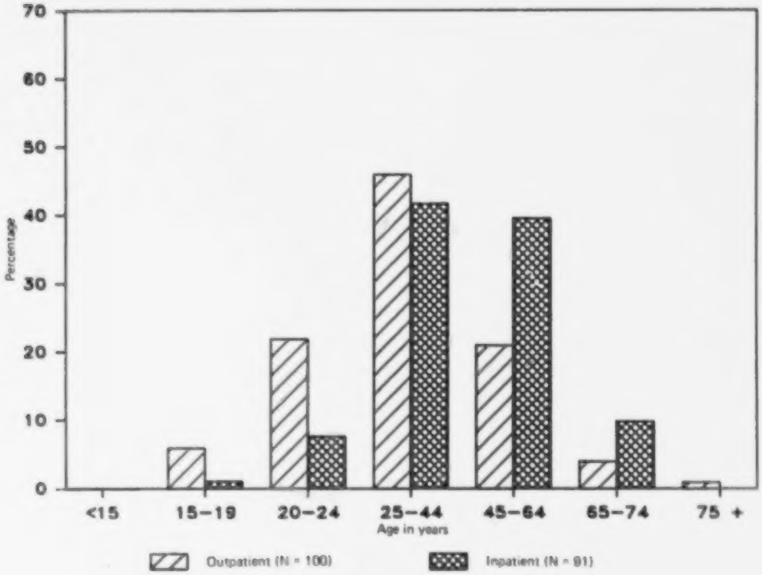

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a] 1	2	3	4	5	6	7	8	9	10	Total
Outpatient	2	16	2	2	62	3	1	4	1	7	100
Inpatient	13	25	5	5	25	14		3	1		91
Total	15	41	7	7	87	17	1	7	2	7	191

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

outpatients were somewhat younger than the inpatients and the diagnostic distribution also differs. The small number of outpatients with alcohol and drug dependence was the consequence of the availability of the alcohol clinic operated by the National Board of

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6	7[b]	1–5	6–7	
Organic psychoses				13		53	33	13	87	15
Schizophrenia and paranoid states			5	17	2	15	61	24	76	41
Affective psychoses	14					14	71	14	86	7
Other psychoses			14				86	14	86	7
Neurosis and personality disorders	7	10	22	23	1	13	24	63	37	87
Alcohol and drug dependence					6	47	47	6	94	17
Mental retardation				100				100	0	1
Other			14	29		29	29	14	86	7
No psychiatric diagnosis				50		50		50	50	2
Not known	86		14					100	0	7
Total	7	5	13	17	2	19	38	43	57	191

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 3 day patients who have not been inpatients

Social Welfare, so that the mental health centre does not normally treat alcoholics.

Types of contact during the first year

Since the cohort consisted of 100 outpatients and 91 inpatients, 48% of the patients have an initial inpatient episode. The differences in diagnostic distribution in inpatients and outpatients were reflected in the larger proportion of psychotics among the inpatients and of neurotics in the outpatients.

Percentage of patients and types of contact during the follow-up episodes of care

Tables C7 and C8 and Fig. C3 again show the differences between inpatients and outpatients. The inpatients were more seriously ill at entry than the outpatients. Of the neurotic patients, 46% had short outpatient care and 48% of the same group had no further contact after one year, which means either that they were no longer in need of care or that they had been referred to their health centre or general practitioner.

The 20.9% who became chronic users were mainly the schizophrenic patients, who need prolonged care and support, and the more serious neurotic cases.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after ... days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	0	13	20	27	40	67	73	15
Schizophrenia and paranoid states	2	2	5	7	17	17	29	41
Affective psychoses	14	14	14	14	14	29	43	7
Other psychoses	14	14	14	14	14	14	14	7
Neurosis and personality disorders	10	16	29	34	39	48	67	87
Alcohol and drug dependence	23	29	35	35	41	59	71	17
Mental retardation	0	0	0	0	0	0	0	1
Other	0	0	29	29	57	57	71	7
No psychiatric diagnosis	0	0	0	0	0	0	0	2
Not known	86	100	100	100	100	100	100	7
Total	12	16	25	28	35	43	57	191

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

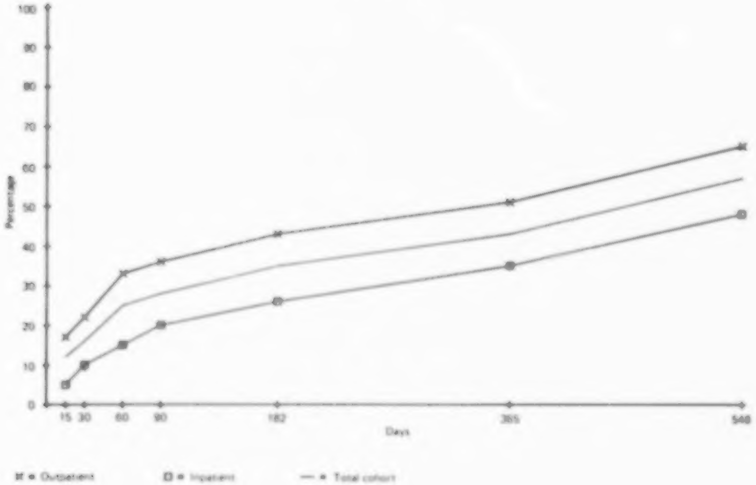

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	13.3		6.7	60.0	6.7		13.3		15
Schizophrenia and paranoid states	12.2	9.8	2.4	22.0	2.4	4.9	46.3		41
Affective psychoses	14.3			14.3		14.3	57.1		7
Other psychoses	14.3			14.3		14.3	57.1		7
Neurosis and personality disorders	46.0	17.2	4.6	13.8	3.4	3.4	10.3	1.1	87
Alcohol and drug dependence		5.9	35.3	41.2	5.9		11.8		17
Mental retardation		100.0							1
Other	14.3	28.6		42.9	14.3				7
No psychiatric diagnosis		50.0		50.0					2
Not known	100.0								7
Total	29.8	12.6	6.3	22.5	3.7	3.7	20.9	0.5	191

[a] Episodes of care:

1 – **Outpatient, short**
One or more short episodes with some outpatient contacts, but no "long episode", i.e. comprising six contacts or more.

2 – **Outpatient, medium or long but not chronic**
One long episode. Three types of long episode are characterized by the following averages

	Type 1	*Type 2*	*Type 3*
Number of events	9	11	25
Length	131 days	359 days	522 days
Average interval between two events	17 days	37 days	22 days
Maximum interval	44 days	70 days	58 days
Concentration	0.46	0.31	0.28

or
an episode of type 1, preceded or followed—with an interval of at least 150 days—by a short episode of 2-5 contacts; *or*
an episode of type 2 or type 3, preceded or followed—with an interval of at least 150 days—by a short episode.

3 – **Inpatient, short**
One stay in hospital, of less than 20 days.

4 – **Inpatient, medium or long but not chronic**
One stay in hospital, of between 21 and 500 days; *or*
several stays in hospital, of less than 50 days (average total length of stay 50 days); *or*
several stays in hospital, of which at least one stay is of 50-200 days.

5 – **Mixed types of care, short**
One stay in hospital of 20-100 days and one short outpatient episode.

6 – **Mixed types of care, medium or long but not chronic**
Mixed period of care for about 400 days, including one stay in hospital of 50-200 days; *or*
several periods of inpatient care, after some outpatient contacts, the total period being of long duration; *or*
as in the foregoing but starting with a hospital stay.

7 – **Chronic**

One stay in hospital, for the total period stay in hospital; *or* stay in hospital and day hospital	with alternating periods of outpatient care for a long period

8 – **Not classified elsewhere**
In day hospital for 300 days

Caseload features

During the follow-up period, only three patients received day care. The 91 patients receiving inpatient care during the first two weeks were the

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	97	91	3	41.5		47.3
16–30	44	82	2	12.9	0.1	38.7
31–60	50	63	5	19.5	1.2	24.8
61–90	42	34	9	7.8	0.6	13.6
91–182	64	13	19	8.4	0.9	7.8
183–365	65	17	23	7.5	2.2	5.6
366–548	60	13	24	5.3	1.9	5.4
549–730	53	11	18	5.0	1.2	5.9
First year	82	29	80	9.6	1.5	11.4
Second year	62	13	33	5.1	1.5	5.6
First and second year	74	25	92	7.3	1.5	8.5

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

inpatient cohort. In the period from three to six months, only 13 patients had inpatient care and 19 patients had mixed care. The number of beds occupied per week per 100 patients decreased markedly. Most of the patients having long outpatient care are only seen, for instance, once every third month.

General comments

Comparison of the Tampere cohort with those of other pilot areas is difficult because of the differences in patient material. Nearly 50 % of the Tampere patients were inpatients and 38 % were psychotics. As a result, there were numerous admissions. Only 57 % of the cohort had left the services after 18 months. This reflects the prolonged care provided, especially to psychotic patients.

Paris 7, France

The pilot study area

General and geographical information

Paris is divided into 20 *arrondissements*, of which the seventh, Paris 7, was designated as the pilot study area. It is wholly urban and has fairly good communications, being served by the dense network of bus and underground lines that make up the city's public transport system.

Sociodemographic profile

Population by sex, age and marital status

In 1975, the pilot study area had a population of 75 845, distributed as follows (see Table 1): 45.5 % men and 54.5 % women, 11.9 % aged 0–14 years and 19 % aged 65 years or over, 50.7 % married in the group aged 15 years or over, 48.3 % widowed among women and 14.8 % among men aged 65 years or over.

Table 1. Population by sex, age and marital status, 1975

Sex	Age (years)	Marital status				Total
		Single	Married	Widowed	Divorced	
Males	<15	4442				4442
Females		4570				4570
Males	15–24	4850	496		6	5349
Females		5088	1149	4	29	6270
Males	25–44	4080	7207	31	429	11 747
Females		3459	6357	125	651	10 592
Males	45–64	1084	6275	216	488	8063
Females		1870	6193	1286	1026	10 375
Males	65–74	323	2349	317	149	3138
Females		824	1966	1894	455	5139
Males	≥75	157	1179	416	54	1806
Females		706	712	2690	246	4354
Males	Total	14 936	17 503	980	1 126	34 545
Females		16 517	16 377	5 999	2 407	41 300

Employment and main economic activities

The economically active group of 34 750 people made up 49 % of the population of the area, school attenders and university students 24.3 %, and pensioners 12 %; the "true" non-active population accounted for only 14.2 %.

Non-commercial and commercial services provide employment for 70 % of the women and 50 % of the men (60 % of the active population of the area) (see Table 2).

Table 2. Percentage distribution of the economically active population by economic sector in 1975

Sector	Paris (men and women)	Pilot study area		
		Men and women	Men	Women
1. Agriculture, forestry, fishing	0.1	0.2	0.3	0.1
2. Agricultural and food industries	1.5	1.3	1.7	0.9
3. Energy production and supply	0.9	0.6	0.9	0.4
4. Intermediate goods	3.5	2.3	3.1	1.3
5. Capital goods	7.4	4.9	7.5	2.0
6. Consumer goods	8.3	6.9	7.3	6.5
7. Construction, civil and agricultural engineering	5.6	3.2	5.7	0.5
8. Trade	12.7	10.7	11.3	10.0
9. Transport and telecommunications	7.6	5.1	6.3	3.7
10. Commercial services	24.8	26.8	29.1	24.2
11. Rental and leasing of real estate	0.2	0.2	0.3	0.2
12. Insurance	1.7	1.5	1.5	1.6
13. Financial institutions	3.6	3.1	4.0	2.1
14. Non-commercial services	22.0	33.2	21.1	46.5
Primary sector (1)	0.1	0.2	0.3	0.1
Secondary sector (2-7)	27.2	19.2	26.2	11.6
Tertiary sector (8-14)	72.6	80.6	73.6	88.3
Total	100.0	100.0	100.0	100.0

On the other hand, there are more men than women in the different industries and construction, i.e. the secondary sector, which in the pilot study area accounts for only 20 % of the active population, as compared with 27 % in Paris as a whole.

The tertiary sector is over-represented compared with the national average, both in Paris and in the pilot study area, and the primary sector, as in all cities, is almost non-existent.

From 1954 to 1975, the poorer residents were "eased out" of the district towards the periphery and replaced by the more well-to-do, and hence the average standard of living in the area has tended to rise. The trends for all socio-occupational groups have been more or less the same in the pilot study area and in Paris, except for the "white collar" category which decreased in number in the area between 1954 and 1975 while increasing in the city generally. At the same time, the better-off sections of society grew at a faster rate in the area than in Paris. Thus, the average standard of living in the area is now much higher than the general level for Paris.

Population distribution and housing

As already mentioned, the pilot study area is exclusively urban in character. The average size of a household (defined as a group of people living under the same roof but without taking marital status into account) is 2.07; 46.2% of households consist of one person, 26.2% of two persons, 13.1% of three, 7.9% of four and 6.6% of five or more.

In 1975, Paris had a total of 1 109 120 housing units and the pilot study area 35 690. The average number of rooms per unit was 2.9 in the pilot study area and 2.4 in Paris. In the pilot study area, 72.7% of units were built before 1914, 18.6% from 1915 to 1948 and 8.7% after 1949 (corresponding rates for Paris: 58.4%, 22%, 19.6%). In 1975, 70.2% of units had an inside toilet, 63.8% a bathroom and 47.5% a telephone. Although the situation was relatively better than in Paris as a whole, there were still a fair number of units without hot water (more than 5000 or 14.4%). The average number of persons per room was 0.71 in the pilot study area and 0.84 in Paris.

It should be noted that 10% of the housing in the pilot study area consists of "rooms with own entrance", as compared with 4.4% in Paris. In 1975, 4175 people (5.8% of the population) were still living in housing of this kind, with an average occupancy of 1.04 per room. While the average occupancy was lower in the pilot study area than in Paris, it was the same for this category of the population.

The number of owner occupiers has increased rapidly and more than doubled between 1954 and 1975, to reach 28.1% in the pilot study area and 24.8% in Paris.

Main ethnic and religious groups

Foreigners make up 12.8% of the population in the pilot study area and 13.6% in Paris, as follows: 0.4% (2.1%) Algerians, 3.9% (2.4%) Spanish, 1.9% (1.9%) Portuguese, 0.7% (0.7%) Italians, 1% (0.6%) other EEC citizens, and 4.9% (5.9%) other nationalities. It will be seen that there was a large proportion of Spanish residents and comparatively few Algerians.

The great majority of residents were Catholic (practising or otherwise).

Indicators of social stability

In 1979, the crime rate was 4.9% in France, 12% in Paris and 9% in the pilot study area. There were 10 cases of robbery with violence on the highway in the pilot study area, 261 in Paris and 2419 in France. There were 5.4 homicides per 100 000 population in the pilot study area, i.e. more than in France (3.9 per 100 000 population) but less than in Paris (8.6 per 100 000 population). In Paris, there were nine suicides per 100 000 population and nearly double that rate (17 per 100 000 population) in France, while the rates of fatal assault and battery were 1.6 per 100 000 population in Paris and 0.52 per 100 000 population in France.

Health and welfare system

Health services

As the pilot study area is in Paris, the residents are able to use a number of different state hospitals in the city, although some located directly in the area or adjacent to it are more specifically responsible for providing services to them (see list below).

These services come under the National Assistance Board, which in turn is under the authority of the Departmental Directorate of Health and Social Affairs (DDASS) and the Ministry.

Financing is normally based on the daily rate system, the cost of services being reimbursed by the social security funds. As far as inpatient services are concerned, most people are covered either by social security or by free medical assistance.

For other services (some outpatient care, dental treatment, oculist services, etc.) that are not fully covered by social security, assistance from mutual benefit funds is usually available.

The following general hospitals serve the area:

Laennec Hospital	431 beds
Necker Hospital	907 beds
Vaugirard Hospital (Paris 15)	189 beds
Boucicault Hospital	408 beds

With a total of 235 general practitioners, or one per 1000 population, the pilot study area has a doctor–population ratio three times as great as that of the rest of the country. This is because Paris is a magnet for doctors, particularly specialists, some of whom have a national and even international following.

The general health situation

Infant mortality (during the first year of life) was ten per 1000. Life expectancy was around 70 years for men and 78 years for women.

The five leading causes of death are shown in Table 3.

Table 3. Five leading causes of death, 1975

Cause of death	France		Paris	
	No.	%	No.	%
Diseases of the circulatory system	202 565	37	8 063	33
Neoplasms	125 743	23	6 483	26.5
Accidents, sudden death	82 322	15	1 533	6
Diseases of the respiratory system	36 841	7	1 594	6.5
Diseases of the digestive system	33 279	6	1 384	5.5
Total	480 750	88	19 057	77.5

Mental health services

Following the issue of a Government circular in 1960, state psychiatric care in France has been organized on the sector system, i.e. the country is divided up into sectors, each of about 70 000 population, for the provision of services.

Mental health care is provided by sector institutions, usually located in the sector itself, and by integrated facilities within psychiatric hospitals, which have several services for the different sectors.

The sector population and the different institutions are served by one and the same sector team, which ensures permanence and continuity of care and tries as far as possible to ensure that patients remain in their normal socioeconomic environment.

Services located inside or outside the area and providing services to it

In the pilot study area, both sector institutions and a psychiatric hospital exist, as follows:

- —the Mental Health Centre, located inside the area, which comprises a day hospital, an outpatient unit (dispensary), a counselling service and a domiciliary care section; for the first of these, the responsible authority is the Vaucluse Psychiatric Hospital, for the other three, the DDASS;
- —the Vaucluse Psychiatric Hospital, which has three wards for inpatients.

Mental Health Centre

The extramural services are based on the Mental Health Centre and comprise the following:

(1) *A dispensary*, where outpatient consultations (about 5000 per year) are handled partly by the regular medical staff and partly by temporary staff; these are generally former interns who have become

specialists and are continuing treatments started earlier, so as to ensure continuity of care.

(2) *A day hospital* with 25 places, where patients may be admitted directly from the sector (direct admissions and referrals from outpatient and domiciliary services), so as to avoid the need for full-time hospitalization; in addition, patients from the sector who have just been released from hospital, and for whom continuing support through partial hospitalization is considered necessary, are also admitted.

(3) *A counselling service*, which is still at an early stage of development and is designed to provide temporary assistance for patients outside the framework of regular clinical consultations and full-time or part-time hospitalization.

(4) *A domiciliary care section*, which organizes visits for the purpose of prevention or aftercare, some by social workers and sector nurses and some by the regular or temporary medical staff. A total of 500–600 visits are made each year.

In addition to running the different institutions, the sector staff also carry out a variety of extramural service functions, for instance in relation to:

- contacting the different social welfare agencies in the sector (social assistance offices, old people's homes, hostels, housing, etc.);
- approaching social security funds, employers, government departments, etc.;
- contacting and establishing a dialogue with different groups concerned with mental health generally or in a more limited way;
- groups concerned with the welfare of the elderly;
- home-help services;
- courses for clinical secretaries;
- meetings of social workers;
- situation reviews with various social workers.

Vaucluse Psychiatric Hospital

This hospital has three wards with a theoretical total of 140 beds and an actual capacity of 125 patients. Average occupancy during the year is around 120 patients, and admissions vary from 250 to 300 per year.

The patients can be divided into the following three groups:

(1) A group of patients who had been in hospital for a number of years before the sector system was introduced and who were then redistributed among the different sector services; most are serious cases, hospitalized for considerable periods of time.

(2) A group at one time referred to as "non-sector patients" who, although they do not live in the sector, were hospitalized in the sector facilities under the system of on-call services operated on a rotating basis by the different psychiatric hospitals and other institutions in Paris. Most of these patients do not have a fixed abode and are social misfits. It was found beneficial to try as far as possible to readmit them

to facilities in which they had already been hospitalized, so as to avoid moving them from one institution to another and to give them a fixed point of reference, both as regards the physical environment and the staff who treat them.

(3) The largest group of patients from the sector. They are resident in Paris 7 and require full-time care in a psychiatric hospital. They are referred to hospital from different services either in or outside the sector. On discharge, they return home and are followed up by the mental health team of the sector.

Psychiatric services in general hospitals

At the time of the study, there were no psychiatric services in the general hospitals covering the pilot study area.

Psychiatrists in private practice

There were 52 psychiatrists in private practice in the area or 0.6 per 1000 population.

Table 4. Staff of mental health services[a]

Type of staff	Mental Health Centre		Vaucluse Hospital	
	Day hospital	Other services		
	Regular staff	Regular staff	Regular staff	Residents, students, trainees, etc.
Professional health staff				
1. Psychiatrists	2.5	1.5	5.5	4
2. Non-psychiatric physicians				
3. Qualified nurses	7	2	79	16
4. Psychologists	0.66	0.75	2	1
5. Social workers		2	1	
6. Other mental health professionals	0.66		0.5	
7. Other health professionals			0.5	
Other health staff				
8. Assistant nurses				
9. Unqualified health personnel				
Non-patient care staff				
10. Administrative and clerical	2	2	4	
11. Housekeeping	2		Outside firm	

[a] In full-time (39-hour week) equivalents.

Services located inside the area but not providing services to it

The child psychiatry unit of the Vaucluse Psychiatric Hospital comes into this category; it provides care to both day patients and outpatients. The responsible authority is the Paris municipality.

Staff

Information on the staff employed at the Mental Health Centre and the Vaucluse Hospital is given in Table 4.

Patient census and cohort study

Patient census

The data were collected from a census carried out among full-time inpatients in the Vaucluse Psychiatric Hospital and day patients in the

Table 5. Number of patients by sex, age and marital status

Marital status	Sex	Age group (years)						Total
		15–24	25–44	45–64	65–74	75–84	85 +	
Single	Male	7	38	29	5	1	0	80
	Female	3	7	10	1	5	0	26
	Total	10	45	39	6	6	0	106
Married	Male	0	2	8	1	2	0	13
	Female	0	2	3	1	1	0	7
	Total	0	4	11	2	3	0	20
Widowed	Male	0	0	0	0	0	0	0
	Female	0	0	0	3	2	3	8
	Total	0	0	0	3	2	3	8
Separated/ divorced	Male	0	1	2	0	0	0	3
	Female	0	0	7	0	1	0	8
	Total	0	1	9	0	1	0	11
Unknown	Male	0	0	0	0	1	0	1
	Female	0	0	0	0	0	0	0
	Total	0	0	0	0	1	0	1
Total	Male	7	41	39	6	4	0	97
	Female	3	9	20	5	9	3	49
	Total	10	50	59	11	13	3	146

Table 6. Number of patients by length of stay, sex and diagnostic group

Length of stay (months)	Sex	Diagnostic group[a]							Total
		290–294	295, 297	296	298–299	300–302, 307	303–304	Other	
1	Male	1	4	0	1	0	1	1	8
	Female	0	0	0	3	1	0	2	6
	Total	1	4	0	4	1	1	3	14
1–2	Male	1	3	0	0	3	0	1	8
	Female	0	0	0	1	1	0	1	3
	Total	1	3	0	1	4	0	2	11
3–5	Male	0	5	1	1	1	0	0	8
	Female	0	2	0	2	1	0	0	5
	Total	0	7	1	3	2	0	0	13
6–11	Male	1	2	0	1	0	0	2	6
	Female	2	1	0	0	0	0	0	3
	Total	3	3	0	1	0	0	2	9

Table 6. (*Contd.*)

Length of stay (months)	Sex	Diagnostic group[a]							Total
		290–294	295, 297	296	298–299	300–302, 307	303–304	Other	
12–23	Male	0	3	0	2	1	0	2	8
	Female	2	1	0	0	1	0	2	6
	Total	2	4	0	2	2	0	4	14
24–59	Male	2	7	0	4	1	0	2	16
	Female	3	1	0	4	0	0	4	12
	Total	5	8	0	8	1	0	6	28
60 +	Male	2	22	0	0	0	1	18	43
	Female	5	6	0	1	1	0	1	14
	Total	7	28	0	1	1	1	19	57
Total	Male	7	46	1	9	6	2	26	97
	Female	12	11	0	11	5	0	10	49
	Total	19	57	1	20	11	2	36	146

[a] By ICD code

day hospital of the Mental Health Centre on 28 June 1979 (146 patients in all).

The census results are shown in Tables 5 and 6: 66.4 % of the patients were men, 34.7 % of the women were 65 years or over (10.3 % of the men), and 82.5 % of the men were single (53.1 % of the women); the majority (66.4 %) had been diagnosed as psychotic (ICD 290–299)[a] and had been in hospital for more than a year (67.8 %) (39 % for more than five years).

Description of the cohort

The cohort was established in 1978 and consisted of 196 inpatients and 200 consecutive cases, aged 15 years or more, entering the services and not having been in contact with them for at least six months. The cohort also included patients who were not from the pilot study area. As previously mentioned, these are generally people without a legal domicile in Paris (no fixed address, persons from the provinces and foreigners) who are assigned for psychiatric care to facilities in different parts of the city, including Paris 7.

As in the census, there were more men (58.2 %) than women (41.8 %). The majority were single (66.8 %) and aged 25–44 years (54.6 %) (see Table C1 and Fig. C1). Again, most patients were psychotics (Table C2, groups 1–4: 62.2 %) or dependent on alcohol or drugs (12.8 %). To some extent, this result was due to the method of selecting the cohort (entry through hospital), but above all it was a reflection of the present situation of a great many state psychiatric services in France, which often have to deal with the most serious cases. Moreover, some patients can obtain the specialized, continuous care they require only in the state health services. This feature of the populations concerned must be taken into account in identifying both the types of care and the resources involved.

Types of contact at date of entry

The cohort had one special feature that influenced the figures in Tables C3–C5, namely that first inpatient contact governed the entry into the cohort.

Types of contact during the first year

Table C6 shows that 42 % of cases were seen by outpatient services during the first year, with higher frequencies in groups 2 and 4 (psychoses).

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[a] ICD codes from *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death*, 9th Revision, Geneva, World Health Organization, 1977

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 196) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15-19	20-24	25-44	45-64	65-74	75-84	>85	
Single	M		1.0	6.1	26.5	7.1	1.0	0.5		42.3
	F			3.1	14.8	4.6	0.5	1.5		24.5
Total			1.0	9.2	41.3	11.7	1.5	2.0		66.8
Married	M				2.6	5.1				7.7
	F				2.0	3.6		0.5		6.1
Total					4.6	8.7		0.5		13.8
Widowed	M				0.5	0.5			0.5	1.5
	F						1.0	2.0	0.5	3.6
Total					0.5	0.5	1.0	2.0	1.0	5.1
Divorced/ separated	M			0.5	3.1	2.0	1.0			6.6
	F				5.1	1.0	0.5	0.5	0.5	7.7
Total				0.5	8.2	3.0	1.5	0.5	0.5	14.3
Not Known	M									
	F									
Total										
Total	M		1.0	6.6	32.7	14.8	2.0	0.5	0.5	58.2
	F			3.1	21.9	9.2	2.0	4.6	1.0	41.8
Grand total			1.0	9.7	54.6	24.0	4.1	5.1	1.5	100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25-44	45-64	>65	
Organic psychoses	M		2		3	5
	F			1	9	10
Total			2	1	12	15
Schizophrenia and paranoid states	M	8	36	9		53
	F	3	22	7	5	37
Total		11	58	16	5	90

Table C2. (*Contd.*)

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Affective psychoses	M		1	1		2
	F		1	1	1	3
Total			2	2	1	5
Other psychoses	M		3	1		4
	F	1	7			8
Total		1	10	1		12
Neurosis and personality disorders	M	1	14	6		21
	F	2	9	4		15
Total		3	23	10		36
Alcohol and drug dependence	M	3	8	8	2	21
	F		2	2		4
Total		3	10	10	2	25
Mental retardation	M			1		1
	F		1			1
Total			1	1		2
Other	M	3		2	1	6
	F		1	3		4
Total		3	1	5	1	10
No psychiatric diagnosis	M					
	F					
Total						
Not known	M			1		1
	F					
Total				1		1
Total	M	15	64	29	6	114
	F	6	43	18	15	82
Grand total		21	107	47	21	196

Percentage of patients and types of contact during the follow-up episodes of care

Table C7 shows that about 40% of the patients were still receiving treatment after 18 months. Drop-out was faster in group 6 (alcohol

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 196)
(See also Table C1)

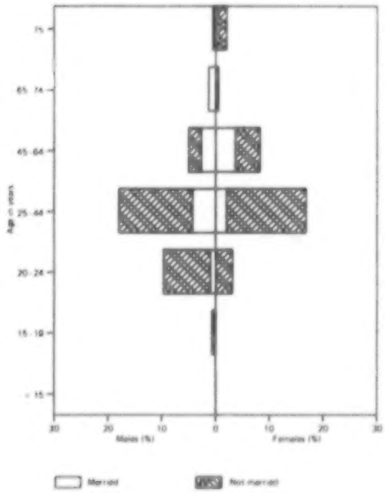

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry
		Inpatient
Males	114	100.0
Females	82	100.0
Total	196	100.0

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	<15	15-19	20-24	25-44	45-64	65-74	75-84	≥85	
Inpatient		2	19	107	47	8	10	3	196
Total		2	19	107	47	8	10	3	196

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

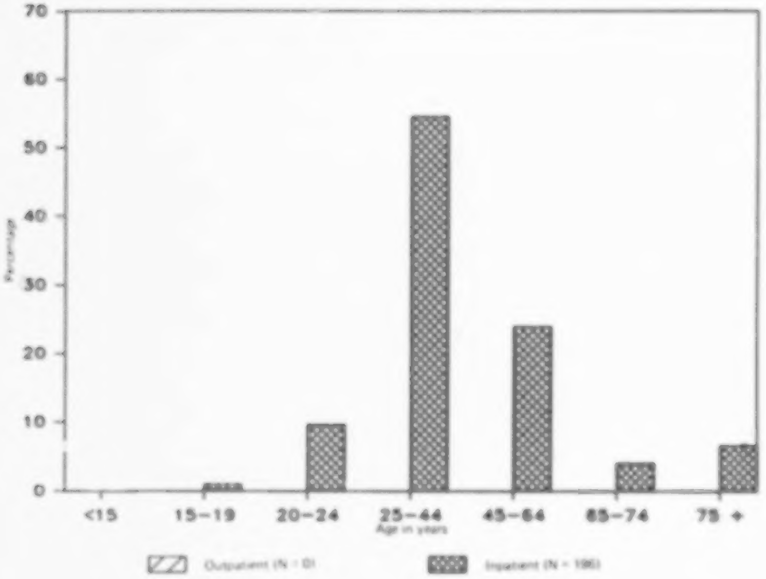

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Inpatient	15	90	5	12	36	25	2	10		1	196
Total	15	90	5	12	36	25	2	10		1	196

[a] The following diagnostic groups have been used
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7[c]	1-5	6-7	
Organic psychoses						80	20		100	15
Schizophrenia and paranoid states						47	53		100	90
Affective psychoses						60	40		100	5
Other psychoses						42	58		100	12
Neurosis and personality disorders						61	39		100	36
Alcohol and drug dependence						72	28		100	25
Mental retardation						100			100	2
Other						80	20		100	10
No psychiatric diagnosis										
Not known						100			100	1
Total						58	42		100	196

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 4 day patients who have not been inpatients

[c] Including 23 day patients who have not been inpatients

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	27	27	27	27	33	67	67	15
Schizophrenia and paranoid states	10	13	17	22	26	36	44	90
Affective psychoses		40	40	40	40	40	40	5
Other psychoses	8	17	17	25	33	33	33	12
Neurosis and personality disorders	33	44	50	53	64	75	78	36
Alcohol and drug dependence	40	52	52	56	60	68	84	25
Mental retardation	50	50	50	50	50	50	50	2
Other	20	30	40	40	50	60	60	10
No psychiatric diagnosis								
Not known					100			1
Total	20	27	30	34	40	51	58	196

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

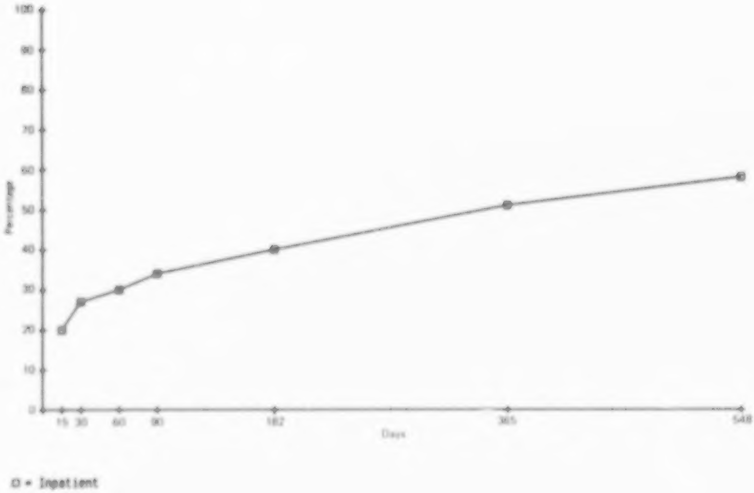

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]											N = 100%
	1	2	3	4	5[b]		6[c]			7	8	
					A	B	A	B	C			
Organic psychoses			33.3	40.0		6.7		6.7		13.3		15
Schizophrenia and paranoid states			16.7	32.2	1.1	3.3	2.2	8.9	2.2	33.3		90
Affective psychoses			40.0	20.0				20.0		20.0		5
Other psychoses			16.7	41.7			8.3			33.3		1'
Neurosis and personality disorders			52.8	25.0	5.6		5.6			11.1		36
Alcohol and drug dependence			60.0	28.0				8.0	4.0			25

Table C8. (*Contd.*)

Diagnosis	Episodes of care[a]											N = 100%
	1	2	3	4	5[b]		6[c]			7	8	
					A	B	A	B	C			
Mental retardation			50.0							50.0		2
Other			40.0	10.0		10.0				40.0		10
No psychiatric diagnosis												
Not known				100.0								1
Total			32.1	30.1	1.5	2.6	1.5	7.1	1.5	23.5		196

[a] Episodes of care:

1 = **Outpatient, short**
No patient.

2 = **Outpatient, medium or long but not chronic**
No patient.

3 = **Inpatient, short**
One hospital stay, of less than 40 days.

4 = **Inpatient, medium or long but not chronic**
One hospital stay, of between 41 and 390 days; *or*
several stays in hospital on average for 70 days with a maximum interval of 230 days; *or*
several stays in hospital, among which at least one of 90 but not more than 170 days. Maximum interval between admissions 250 days.

5 = **Mixed types of care, short**
(*a*) A stay in hospital of 10–40 days followed by day hospital on average for 50 days.
(*b*) A stay in hospital for less than two weeks followed by 2–5 outpatient contacts.

6 = **Mixed types of care, medium or long but not chronic**
(*a*) Several hospital stays, of which one at least of 103–390 days, and day hospital care.
(*b*) A long episode of outpatient care of type 1 with a hospital stay of at least 30 days or with several hospital stays and day care; *or* a long episode of outpatient care of type 2 with a hospital stay of 12–52 days.

	Type 1	*Type 2*
Number of events	11	40
Length	152 days	474 days
Average interval between two events	15 days	21 days
Maximum interval	41 days	59 days
Concentration	0.44	0.32

7 = **Chronic**
In hospital for more than 500 days, sometimes with a period of day care or outpatient care; *or*
a very mixed type of outpatient day and inpatient care for a very long period.

8 = **Not classified elsewhere**
No patient.

[b] 5 A = admission followed by day care
5 B = admission followed by outpatient care

[c] 6 A = admission followed by day care
6 B = admission followed by a long outpatient episode
6 C = starting after a few inpatient days with a long outpatient episode

dependence) and group 7 (mental retardation): 40% and 50% of patients, respectively, discontinued treatment within 15 days or less. Patients in group 5 (neurosis and personality disorders) also interrupted their treatment sooner than those with psychoses. Table C8 shows relatively more chronic cases among patients with psychoses than in other groups, with the exception of those in the mental retardation group who did not break off treatment within the first 15 days. Finally, the table shows that 37.8% of hospitalizations were followed by outpatient care.

Caseload features

Table C9 shows that there was a steady decrease in the number of beds occupied per 100 patients. Within a few days of admission, outpatient care had already been started. The number of outpatient contacts per week per 100 patients fell after a year and a half.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:*			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	9	167	20	10.3	1.1	77.4
16–30	6	118	18	8.3	1.6	54.6
31–60	17	85	22	8.2	1.5	39.7
61–90	24	63	16	9.6	5.1	30.0
91–182	23	48	40	10.5	2.5	21.5
183–365	29	43	37	9.1	1.9	13.5
366–548	35	26	26	8.6	0.7	12.1
549–730	34	24	25	5.7	0.9	10.3
First year		109	87	9.4	1.9	23.4
Second year	31	27	38	7.1	0.8	11.3
First and second year		105	91	8.3	1.4	17.3

* These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Paris 13, France

The pilot study area

General and geographical information

The city of Paris is divided into 20 *arrondissements* of which the Paris 13 pilot study area is one.

As a result of some spectacular reconstruction, the 13th *arrondissement* has been completely transformed over the last 25 years, both in its external appearance and in its social texture. Previously considered as the "dustbin" of Paris, it is now striking for the number of its high-rise buildings and the modernity of its facilities. In 1951, to deal with the existing insanitary housing, an urban renewal programme was drawn up for the area. This programme, which has so far been in progress for 20 years, has not yet been completely implemented and perhaps never will be, since the problems that it was designed to overcome no longer exist.

The promoters were authorized to build with a ground occupation factor for each site higher than that tolerated elsewhere in Paris. The impulse that this gave to high-rise building made it possible to construct a large number of dwellings. Unfortunately, it was found at the end of the operation that, contrary to the wishes of the authorities, the previous inhabitants of the area had been evicted. The owners of small and often older premises had not been associated with the big promoters, and the latter had found all sorts of ways of partially escaping from the obligation of rehousing tenants cheaply in the same area. Finally, all of these operations and the departure of the large industrial firms gave rise to an increase in sales of land and a consequent rise in prices.

Land use has changed in character (between 1954 and 1974 some 686 000 m^2 of "industrial" premises were demolished; a total of 418 700 m^2 was used for offices and commercial purposes, and 2 103 400 m^2 for accommodation) with all the consequences such a change implies for population movements in the 13th *arrondissement*.

Sociodemographic profile

Population by age and sex

As a result of the reconstruction the inhabitants of the 13th *arrondissement* have changed, although the number of inhabitants in

1975 was the same as that in 1954. Between 1968 and 1975, the population of the 13th (in 1975, 163 755) increased by 3%, which is unique for Paris, a city where the population declined by 19% between 1954 and 1975.

The population density is higher in the 13th (228.41 inhabitants per hectare) than the Paris average (218.20) and very high compared with other western cities. The age/sex structure, shown in Table 1, is quite similar to the Parisian average or a little younger: in 1975, 21% of the population of the 13th was aged 0–19 years as against 19% for Paris, and 14% was 65 years or over compared with 18% for Paris.

Table 1. Population by sex and age, absolute and as a percentage of total population, 1975

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Absolute						
Males	13 085	12 450	26 850	17 270	7985	77 640
Females	11 990	13 000	25 350	20 280	15 475	86 095
Total	25 075	25 450	52 200	37 550	23 460	163 735
Percentage						
Males	8.0	7.6	16.4	10.5	4.9	47.4
Females	7.3	7.9	15.5	12.4	9.5	52.6
Total	15.3	15.5	31.9	22.9	14.3	100.0

Employment and main economic activities

The economically active population in the 13th forms a much higher proportion of the total (55%) than the national average (41%); this is an "adult" population, with few children, and one in which women work. The same trends are apparent, however, as in the country as a whole. Thus, in the 13th *arrondissement*, the percentage of economically active men fell from 69.6% to 59.6% (42 260) between 1954 and 1975 and the percentage of economically active women rose from 42.3% to 46.5% (40 055). The socioprofessional distribution of Paris 13 had become by 1975 very similar to that of Paris as a whole, whereas there was a marked difference in 1954.

It is noticeable that the proportion of executives in the 13th has greatly increased (35% in 1975 as against 17% in 1954), whereas the number of skilled and unskilled workers has decreased sharply.

These transformations are due to the departure of industrial firms employing large numbers of workers and to the high cost of accommodation. While in 1962 there were 398 firms employing 36 000 workers, in 1975 there were 288 employing only 19 900 workers.

On the other hand, while the secondary sector has declined, there has been a marked increase in jobs in the tertiary sector; the building programme resulted in an increase in office jobs.

In January 1978, the secondary sector comprised 1725 businesses with 27 363 workers (33 % of the total), and the tertiary sector 7002 businesses with 56 994 workers (67 % of the total) (see Table 2).

Table 2. Distribution of the economically active population by economic sector on 1 January 1978

Sector	Number of businesses	Number of paid jobs
1. Agriculture	2	1
2. Energy (production and distribution)	6	149
3. Production and primary transformation of metals and materials	34	340
4. Mechanical and electrical engineering	154	4 218
5. Other industries	928	11 648
6. Building and public works	603	11 008
7. Wholesale and retail trade	3366	10 235
8. Transport and telecommunications	649	6 419
9. Banks, insurance, financial services	237	2 162
10. General administration and social security	25	1 197
11. Services and diverse activities[*]	2725	36 981
Primary (1)	2	1
Secondary (2–6)	1 725	27 363
Tertiary (7–11)	7 002	56 994
Total	8729	84 358

[*] Including: Health: 287 establishments with 21 684 paid jobs; and Education: 105 establishments with 1 775 paid jobs.

Table 2 shows the large number of jobs in services; their number has trebled since 1954. The commercial development of the 13th is among the most spectacular in Paris. Of a projected floor space of 130 000 m^2 for large stores, 100 000 were functioning in 1977. As the clientele is no longer purely local, this has given rise to serious traffic problems.

Furthermore, daily movements of workers show that about 50 % go out to work in other *arrondissements* of Paris and approximately another 25 % work outside Paris, so that only about 25 % of the 86 315 persons living in the 13th *arrondissement* who describe themselves as economically active in 1975 work in the 13th, although there were 90 000 jobs available (in 1954, half of the economically active population of the 13th still worked in the *arrondissement*).

A large number of journeys are thus made, since every day a large work force enters the 13th either from the rest of Paris or from the suburbs. The surplus of jobs does not prevent local unemployment; in September 1978, at the National Employment Agency in the 13th, the number of local residents signing on as unemployed was around 4000 (not counting management personnel).

Population distribution and housing

The 13th is a completely urban area. Compared with Paris as a whole, in the 13th *arrondissement* at the present time, 33% of dwellings date from before 1914 (as against 58% in Paris), while 39% of the dwellings in the 13th have been built since 1948 (as against 20% in Paris).

A total of 32000 dwellings were built during the period of urban renewal, 37% of which were publicly owned. The rate of construction has slowed down, but in 1978 the housing stock of the 13th *arrondissement* comprised 88000 dwellings, of which 17600 (one in five) were publicly owned.

Although these dwellings are in general larger than the old ones (but it must be remembered that many previous occupiers in the 13th did not benefit from rehousing), there are few for large families. The average floor space has increased from 34 m^2 in demolished housing to 58 m^2 in the new housing, but 60% of newly constructed dwellings have only one or two rooms, and only 5% have five rooms.

As far as occupancy is concerned, under-occupied dwellings are rarer in the 13th (5%) than in Paris as a whole (15%).[a] Such dwellings are found alongside those of the old districts, which are the refuge of people "rehoused" under the urban renewal and those excluded from public housing by their inability to meet the rent: 31% of dwellings in the 13th are moderately over-occupied (compared with 17.8% for the whole of France), while 10% of dwellings are heavily over-occupied (compared with 4.8% for France). These figures are close to those for Paris as a whole.

Housing in the 13th *arrondissement* can be divided into three sectors: (1) public housing; (2) the standard rent (ILN) sector; and (3) the free sector. The last two sectors have been greatly developed in recent years and house a large percentage of families of average or above average income. Rents in the ILN sector are controlled.

The public housing sector is more developed in the 13th than in the central *arrondissements* of Paris. This housing has been used partly to rehouse people evicted as a result of large-scale building operations outside the 13th, and to accommodate those on the badly housed list, and partly to house previous inhabitants of the 13th evicted under the urban renewal scheme.

Young households have been the most successful in settling in again and adapting to the change. Older people, often also less well off, have been unable to benefit from the urban renewal and have been rehoused either in the suburbs or in the oldest buildings in the 13th or the rest of Paris, where they run the risk of being evicted for a second time. Others have been forced to leave for the provinces. With the help of public funds, a number of collective housing schemes have been developed in the form of halls of residence (for young workers, the elderly, students, immigrants, and unmarried mothers).

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[a] There are also 1770 second homes in the 13th *arrondissement*.

To sum up, although urban renewal has transformed the appearance of the 13th, it has not eliminated all the housing problems.

Main ethnic and religious groups

Another phenomenon which must be considered in a city such as Paris is the presence of foreigners.

In the 13th *arrondissement*, the proportion of foreigners was lower in 1975 (10%) than for Paris as a whole (14%). However, this difference has tended to disappear following the massive arrival of Asians in 1977. Among the foreigners consulting the mental health services, the majority come from North Africa, Portugal, Spain and the West Indies.

Indicators of social stability

The proliferation of large blocks of flats resulting from the reconstruction has given rise to what might be called "dangerous zones", and the average delinquency rate for the *arrondissement* is rising; the 13th has one of the highest "danger rates" in Paris. There is an average of around 1000 offences per month, but the figures for offences committed by the adult population are broadly comparable with those for minors.

At the top of the list of offences comes theft (from shops, public property, underground car parks), followed by thefts of cars and motorcycles. Then come burglary and less serious offences (illegal immigration, stealing cheques, drunkenness, obstruction).

At present, the mental health services (and those of the police) are seeing an increase in drug addiction but, in the case of delinquents, it appears that soft drugs are mostly favoured, whereas among patients cases of poisoning/intoxication and dependence on prescribed psychoactive drugs and of recourse to hard drugs predominate.

Health and welfare system

Reference should be made to the corresponding section in the area description for Paris 7, since major differences between the two *arrondissements* are unlikely to exist.

Mental health services

The Association de Santé mentale et de Lutte contre l'Alcoolisme (Association for Mental Health and the Control of Alcoholism) serves the entire population of the 13th *arrondissement*.

It was founded on the initiative of Dr Philippe Paumelle and is a private association recognized as being of public utility. Under the terms of an agreement signed in 1961, the Association is financed by annual grants, 60% coming from social security organizations, and 40% from public bodies, namely the state and the city of Paris. All patients receive treatment free of charge, whether or not they are covered by social security.

Following a second agreement, signed in 1973, the Association was linked to the teaching and research activities of the Pitié-Salpêtrière University Hospital Centre.

The Association has psychiatric care units for children, adults and the elderly. Its basic aim was to provide continuity of treatment and unified therapy by grouping together the services and health personnel in the area. At present, these working principles are sometimes questioned by some of the personnel who tend to favour discontinuous treatment in the form of limited interventions, thus avoiding "taking charge of the patient" and the danger of illness becoming chronic which it implies. The area organization also seems to be undergoing another type of change, at least in the adult sector; while the work was previously characterized by the importance accorded to the social situation of the patients, it is now tending to become more medical in character because of a growth of interest in pathology among the personnel.

From a functional point of view, the Association comprises two departments: (1) the department of general psychiatry, whose mental health centre is the Centre Philippe Paumelle; and (2) the department of infant and adolescent psychiatry, whose mental health centre is the Centre Alfred Binet.

The various services are grouped around each of the centres, and it is in these centres that the work of the medicosocial teams responsible for parts of the area is carried out. For maximum efficiency, the *arrondissement* has been divided into eight sectors, each of which has a population of approximately 23 000 inhabitants. Each mental health centre has eight medicosocial teams, each of which is responsible for part of the *arrondissement*. Broadly speaking, each team has an average of 250 patients under treatment. In spite of this distribution, there has been over the last few years an imbalance in the workload of the teams, due not only to the number of people served but also to specific factors affecting certain districts (a large number of elderly people, an influx of new inhabitants due to the reconstruction, a sudden rise in the immigrant population). It is therefore necessary to adjust the workload of the different teams at regular intervals.

The two centres were formerly housed in different places, but now occupy a single building situated at the centre of the 13th *arrondissement*. However, not all of the area organization is housed in this building. Each department has a number of services situated in different places, sometimes outside the *arrondissement*.

Existing facilities

Services other than the two outpatient centres mentioned above are summarized in Table 3. Since the patient data collected in this study concern mainly adults, only limited information will be given here on the child and adolescent psychiatric services for the 13th *arrondissement*.

Table 3. Number of beds and places in the institutions of Paris 13

Institution	Beds (full-time care)	Places (day care)
Adult psychiatry		
Policlinique psychiatrique (emergency cases)	35 + 1	25
Hôpital de Jour (day hospital)		45
Hôpital de Jour Le Fleuron (therapeutic workshop and day hospital)		40
Foyer de Post-Cure Watteau (aftercare hospital)	27	
Centre Maison Blanche (day hospital)		20
Hôpital l'Eau Vive* à Soisy (psychiatric hospital)	204	
Foyer de Soisy* (community hostel)	23	
Placement Familial Adulte* (adult family adoption service)	23	
Total	312 + 1	130
Child and adolescent psychiatry		
Hôpital de Jour (day hospital)		40
Unité du Soir (intensive care unit)		36 + 6
Unités des Soins spécialisés à Domicile (small children's unit)		10
Club du Soir (evening club)		30
Centre familial d'Action thérapeutique* (specialized foster family service)	20	
Total	20	116 + 6

* Located outside the pilot study area but also serving it.

In this connection it is noted that O. Gagué and R. Diathine (unpublished data, 1982) have undertaken a comprehensive study of sociodemographic data and the inventory of services in the pilot study area.

Child psychiatry

In 1979 at the Centre Alfred Binet, in the eight medicosocial teams, 1576 children (of whom 472 were new cases) were receiving outpatient treatment. The more seriously affected children, for whom outpatient care is insufficient, are spread over the other five services mentioned in Table 3. The day hospital accepts for the most part psychotic or prepsychotic children, with a length of stay (in 1975–1976) of three years. The intensive care unit accepts schoolchildren presenting serious personality difficulties and who pose serious educational problems for their families. For children with serious dysphasia and precocious infantile psychosis (especially autism) there is also a small children's group with six places. The small children's unit is reserved for children under four years of age with a combination of serious behavioural and developmental difficulties linked to pathology or family neglect, who require long-term care. The evening club provides follow-up psychopedagogical care for cases where there is insufficient cultural support from the family, school phobia and under-achievement in school or lack of work discipline. The specialized foster family service deals with cases of incompatibility between child and family; it seems to be particularly valuable for children of psychotic mothers. Finally, over the past few years, a very close collaboration between the Centre Alfred Binet and the Mother and Child Protection Service and other prevention services has developed which has facilitated early intervention.

Adult psychiatry

1. *The Centre Philippe Paumell* (mental health centre). The Centre, at which the eight medicosocial teams of the adult psychiatry department work, was originally intended to be the point at which the patient first makes contact with the services. The team receiving the patient is usually composed of a psychiatrist, a social assistant, a secretary and a nurse. Because of an increase in the team's workload, the doctor in charge may assign himself an assistant to share his duties, i.e. consultations, house visits, general reports and administration.

For many years, the Centre was indeed the first point of contact; 67 % of patients came to the services via the Centre, as against 33 % who were directly hospitalized. Following the opening of new services, these figures have changed, and in 1980 new cases came to the services as follows:

—Centre Philippe Paumelle (Mental Health Centre): 48 %;
—Soisy (Psychiatric Hospital): 30–37 %;
—Psychotherapy and Psychoanalysis Centre (Psychotherapy Centre): 2.4 %;
—Polyclinic (Day and Night Hospital, emergencies): 10 %.

In comparison with the original idea, the area organization has been rendered less efficient. The fact that patients have been admitted directly to hospital without passing through the Mental Health Centre shows that the local team has failed to notice some of them.

In addition to the treatment provided by the professional personnel directly attached to the local team, the need has been seen in recent years to provide relaxation treatment, and the services of a careers adviser and a psychologist, the latter being responsible for psychological examinations.

2. *Centre de Psychothérapie et de Psychanalyse* (centre for psychological treatment). The aim of this centre, created in 1974, is essentially that of studying the theory of the psychotherapy of psychotic or seriously neurotic patients. This study was concerned with the special features of psychoanalysis-inspired psychotherapy and the differences between this type of psychotherapy and the therapeutic techniques generally used in psychiatric practice. The aim was to refine the technique of psychoanalytical psychotherapy (including psychodrama) and even of psychoanalysis in the strict sense of the term, as applied to

patients who until recently were only exceptionally the subject of psychoanalytical work.

In 1977, the Centre had 19 psychotherapists who made 3449 interventions, in addition to training, teaching and research work.

3. *Policlinique Psychiatrique* (emergency cases, day and inpatient hospitalizations). The polyclinic, which was created in 1976 by combining two already existing institutions, is intended to deal with the problems of emergencies arising outside the opening hours of the Centre Philippe Paumelle and to bridge the gap resulting from the fact that the hospital of the 13th *arrondissement* is located outside the area and is therefore not easily accessible. This new institution was designed for: (1) inpatients; (2) outpatients; and (3) to provide a reception service and to evaluate and allocate patients (in 1977, 443 times).

At present, this hospital provides 35 beds and an isolation ward for inpatients, and 25 places for outpatients who come at certain times, either daily or weekly, for treatment and/or therapeutic consultations. The beds are mainly used for chronic psychotics, while the outpatient section is also used for patients who have recently left hospital and who are still in need of support.

It should be noted that the number of patients who visited the polyclinic and left without day/night hospitalization (185) was greater in 1977 than the number of patients admitted (127, of whom 19 were non-residential).

4. *L'Hôpital de Jour* (day hospital). The work of this institution has moved away somewhat from traditional occupational therapy in the direction of therapeutic plans with more flexible techniques. In 1977, it treated 136 patients, of whom 84 entered during that year.

5. *L'Hôpital de Jour le Fleuron* (therapeutic workshop and day hospital). In this hospital, the patients are paid for their work and part of their pay is used to organize excursions. The patients may be residents of other services within the Association or else live at home. Most of the patients (average age 45 years and 6 months) are chronic psychotics or mentally deficient. As this latter group ages, the proportion of psychotics increases, as does the length of treatment. Despite the aims of the hospital, it is not easy to achieve the social reintegration of these patients.

6. *Foyer de Post-Cure Watteau* (aftercare hospital). The length of residence in this hospital is variable and most residents are chronic psychotics. Most of the patients admitted come from the area psychiatric hospital. A wide variety of activities are available (manual work, physical activities, etc.).

7. *Centre Maison Blanche* (day hospital). This is a day centre for patients with motor and brain defects. Between 1974 and 1977, 20 admissions and 22 discharges were registered. In 1977, the average age of patients was 16 years.

8. *L'Hôpital l'Eau Vive à Soisy* (psychiatric hospital). This hospital, situated about 30 km from Paris, has 204 beds in six wards and accepts in the first instance patients from the 13th *arrondissement*. In spite of

difficulties due to the overloading of the hospital, the principles laid down for the organization of care when the hospital was founded in 1962 have been maintained. One basic principle was that wards should be mixed, in terms both of sex and of type of illness. This sometimes gives rise to problems, especially in the organization of treatment and of everyday life.

There are special units for psychogeriatric patients and for patients with motor and brain deficiencies, and there are also two isolation units with seven beds.

In 1977, when 616 individuals were admitted, some more than once, there were 722 patients with an average stay of 118 days; and 32% stayed less than six months. Almost half the patients (45.7%) had previously been outpatients of the Centre Philippe Paumelle.

After discharge, 65% of patients return home and 20% are referred to general hospitals for observation or treatment. Some of this latter group will be sent to a hostel, a day hospital or a psychiatric hospital.

9. *Foyer de Soisy* (community hostel). In 1977, this hostel received seven new patients, mainly from psychiatric hospitals. The average age of the patients was 42.8 years; all had previously been in hospital for long periods. The hostel tries to give patients some degree of independence and to integrate them more closely in the community.

10. *Placement Familial Adulte* (adult family adoption service). This is essentially reserved for patients over 45 years of age with a diagnosis of chronic psychosis. Most of them have serious psychiatric problems, and all have spent long periods in hospital or psychiatric institutions.

The main difficulty for these patients is that of finding foster families to take them in. However, such families can be found, and their stability, like that of the personnel of the service, has certainly been a positive factor in its operation.

11. *Other services*. A social activities club provides a meeting place and contact point for patients and ex-patients (it has an average of 65 members) and there are also evening classes, mainly for mentally retarded and psychotic patients, geared to the intellectual capacities of the pupils.

Apart from the above psychiatric services belonging to the Mental Health Association, there are psychiatric services in the general hospitals in the 13th, but these can only accept voluntary patients who do not need long-term care, and also psychiatrists in private practice. Both maintain good relations with the Association.

Utilization of the services

The Association's services are used on average by 1% of the population. If the other psychiatric services of the 13th *arrondissement* not belonging to the Association are taken into account, 2% of the population are, in one way or another, under psychiatric care. This is, of course, a very approximate figure.

Manpower resources of the Mental Health Association of Paris 13

The manpower resources of the Association are shown in Table 4 expressed in full-time equivalents (f.t.e.), i.e. for a psychiatrist 36 hours per week, for most other workers 40 hours per week, but in some institutions the sum of the salaries had to be converted into hours worked by the different categories of staff.

Table 4 shows clearly the relative size of the adult psychiatry department in comparison with the child and adolescent department. However, over half the staff resources are taken up by the psychiatric hospital, and especially by nursing staff: 296.4 f.t.e. out of 484.4 for the entire adult department.

Since many staff members work part-time and/or on short-term contracts, the f.t.e. figures given in Table 4 do not reflect the number of workers in the service, although they show the personnel distribution very clearly: 4.1 % of the total are psychiatrists and 3.4 % social workers, i.e. professionals who, although constituting only a small proportion, form the nucleus of the basic teams at the two mental health centres.

Compared with the Centre Alfred Binet (which is not included in Table 4 since only limited information on child services is given here), the Centre Philippe Paumelle operates with a somewhat smaller workforce. However, in 1979 the number of interventions at the child centre was 40 679 as compared with 28 273 at the adult centre.

Costs

Two methods of financing are used, the first taking the form of annual grants, paid quarterly, by the state (40 %) and the social security system (60 %). The two Mental Health Centres, the Centre Alfred Binet and the Centre Philippe Paumelle, are subsidized in this way. Table 5 shows the average cost per intervention. At the Centre Philippe Paumelle, the total of 28 273 interventions was made up of 5608 consultations, 6730 treatments, 153 examinations and 16 382 other and social services interventions. For the 40 679 interventions at the child centre, the corresponding figures were 5291, 22 587, 2179 and 10 622.

When other (mental hygiene) and statistical services are included in the figures, the average cost increases for both the adult centre and the child centre (to US$51.20).

The second method of financing relates to the daily cost (see Table 6). In the case of most institutions, these grants come from the state (20 %) and the social security system (80 %). Some of the services of the Child and Adolescent Department receive loans from private institutions, but the working budget is calculated in the same way whatever the source of finance. A budget is assigned to an institution based on the result obtained by dividing the estimated annual outlay by the estimated number of patient days for the year.

This outlay includes that of the financial year in question, together with any deficit left over from previous financial years. This explains the

Table 4. Distribution of staff employed in the Mental Health Association of Paris 13 in full-time equivalents

Type of staff	Total		Child and adolescent department	Adult department[a]								
	No.	%		Total	1	3	5	6	7	8	9	10
Professional health staff	369.2	59.7	66.3	302.9	27.6	28.3	20.3	10.50	6.5	192.2	7.5	3.0
Psychiatrists[b]	25.5	4.1	10.1	15.4	6.8	1.8	0.8	0.3	0.2	4.7	0.2	0.4
Qualified nurses	229.5	37.2	2.0	227.5	7.2	25.7	9.3	8.1	3.7	164.5	7.2	1.8
Psychologists (clinical)	23.2	3.8	12.1	11.1	4.3	0.8	0.1		0.5	0.8		
Social workers	21.2	3.4	11.4	9.6	8.8							0.8
Other mental health professionals:												
Special education teachers	12.0	2.0	10.0	2.0			1.0		0.9		0.1	
Rehabilitation workers	20.4	3.3	15.3	5.1	0.5		0.2			0.1		
Occupational therapists	25.6	4.1		25.6			8.9	2.1	1.2	14.6		
Speech therapists	1.0		1.0									
Psychomotricians	0.5		0.5									
Psychotherapists	2.1											
Others	1.9											
Other health professionals	6.6	1.1		6.6						6.6		
Other health staff	88.7	14.4	45.7	43.0	13.1	2.8	2.1	0.5	0.6	5.5	0.9	16.4
Assistant nursing personnel (including secretaries)	49.0	7.9	21.9	27.1	13.1	2.8	2.1	0.5	0.6	5.5	0.9	0.5
Unqualified[c]	39.7	6.5	23.8	15.9								15.9
Non-patient care staff	129.4	21.0	11.1	118.3	5.5	7.0	7.0	6.0	1.5	88.6	2.7	
Administrative and clerical	32.2	5.3	5.0	27.2	3.4	1.7	2.4	0.7	0.5	18.5		
Housekeeping and services	97.2	15.7	6.1	91.1	2.1	5.3	4.6	5.3	1.0	70.1	2.7	
Interns	17.6	2.9	2.0	15.6	1.0	3.1	2.3			8.8	0.4	
Externs	12.6	2.0	8.0	4.6		2.1	1.2			1.3		
Total	617.5	100.0	133.1	484.4	47.2	43.3	32.9	17.0	8.6	296.4	11.5	19.4

[a] The numbers refer to the institutions discussed under the heading "Adult psychiatry" (p. 288)

[b] In the child and adolescent department, these are all psychoanalysts.

[c] Mainly families who take in psychotic patients.

Table 5. Average cost of intervention in the mental health centres of Paris 13, 1979

Item	Centre Philippe Paumelle (adults)	Centre Alfred Binet (child and adolescent psychiatry)
Total outlay in FF	6 269 487	7 681 935
Number of interventions	28 873	40 679
Average cost of intervention in FF	217.14	188.84
Average cost in US$	54.15	47.09

two patient day costs given in Table 6. It should be noted that for the year 1979 most institutions show an actual cost price which is higher than the assigned cost per patient day, which means that they operated with a deficit. These deficits can sometimes be explained by an insufficient number of hospital days as compared with the number expected, but they are usually the result of the failure of the assigned daily cost to keep up with the rate of inflation.

Table 6. Average daily cost in the institutions of the Mental Health Association of Paris 13 (1979): adult psychiatry

Average cost of patient day	Assigned cost		Actual cost	
	FF	US$	FF	US$
Hôpital l'Eau Vive à Soisy	464.50	115.84	477.55	119.09
Foyer 1 Post-Cure Soisy	202.45	50.50	217.71	54.29
Foyer 2 Watteau	218.38	54.46	223.18	55.66
Policlinique	288.65	71.98	285.09	71.09
Placement Familial Adulte	168.35	41.98	170.46	45.50
Hôpital de Jour	179.00	44.64	193.04	48.14
Maison Blanche	259.51	64.72	276.88	64.05

The preliminary conclusions of the study by Gagué & Diatkine (see p. 287) give the breakdown of these daily costs, in accordance with the Plan Comptable Hospitalier Français, as follows: personnel costs 69.2–94.3%; short-term capital 3.5–25.5%; and fixed capital 1.3–4.9%.

Patient census and cohort study

Patient census

A patient census for Paris 13 was not carried out, but data on the age and sex of patients under treatment were collected for the whole of 1979, as shown in Table 7.

As in the cohort, females are in the majority, but the proportion of the elderly in the cohort is smaller than in the total group under treatment in one year.

Table 7. Age and sex distribution, in percentages of total number of patients under treatment in 1979 (N = 1839, aged 15 years or over)

Sex	Age in years				Total
	15–24	25–44	45–64	≥65	
Males	5.7	25.1	11.1	2.8	44.7
Females	4.4	21.9	14.5	14.0	55.2
Total	10.1	47.0	26.0	16.8	100.0

Description of cohort

The 300 patients included in the cohort were all new patients (aged 15 years or over) of the Mental Health Association for Paris 13 between 1 January and 31 July 1979.

Tables C1 and C2 and Fig. C1 contain data on the age, sex, marital

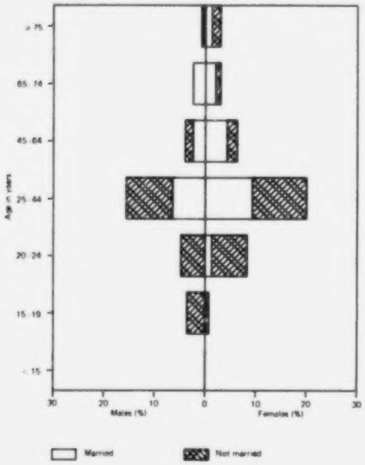
Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 300) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M		0.7	8.7	13.7	2.3			0.3	25.7
	F		0.7	7.0	10.7	2.0	1.0	1.7		23.0
Total			1.3	15.7	24.3	4.3	1.0	1.7	0.3	48.7
Married	M			1.0	4.3	2.7	1.3	0.3		9.7
	F			1.3	9.3	4.3	2.0	1.3		18.3
Total				2.3	13.7	7.0	3.3	1.7		28.0
Widowed	M				0.7	0.3			0.3	1.3
	F				0.3	0.7	0.3	2.3	0.3	4.0
Total					1.0	1.0	0.3	2.3	0.7	5.3
Divorced/ separated	M				1.7	1.3				3.0
	F				5.0	2.3	0.7	0.7		8.7
Total					6.7	3.7	0.7	0.7		11.7
Not known	M		0.3	0.3	2.0	0.3		0.3		3.3
	F				2.0				0.3	3.0
Total			0.3	0.3	4.0	0.3		0.3	0.3	6.3
Total	M		1.0	10.0	22.3	7.0	1.3	0.7	0.7	43.0
	F		0.7	8.3	27.3	10.0	4.0	6.0	0.7	57.0
Grand total			1.7	18.3	49.7	17.0	5.3	6.7	1.3	100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M		5		2	7
	F			1	17	18
Total			5	1	19	25
Schizophrenia and paranoid states	M	6	16	7	2	31
	F	3	16	4	7	30
Total		9	32	11	9	61
Affective psychoses	M	1	1			2
	F		4	1	1	6
Total		1	5	1	1	8
Other psychoses	M					
	F					
Total						
Neurosis and personality disorders	M	14	27	8	3	52
	F	15	49	20	4	88
Total		29	76	28	7	140
Alcohol and drug dependence	M	9	14	5		28
	F	5	8	4		17
Total		14	22	9		45
Mental retardation	M	1				1
	F					
Total		1				1
Other	M		3	1		4
	F	4	3		1	8
Total		4	6	1	1	12
No psychiatric diagnosis	M					
	F					
Total						
Not known	M	2	1		1	4
	F		2		2	4
Total		2	3		3	8
Total	M	33	67	21	8	129
	F	27	82	30	32	171
Grand total		60	149	51	40	300

Fig. C 1. Cohort by age, sex and marital status, in percentages of total cohort (N = 300)
(See also Table C 1)



status and diagnosis of the cohort. As in other cohorts, there are more females (57 %) than males (43 %). By age, 69.7 % are 44 years or less, 17 % are 45–64 years and 13.3 % are 65 years or over. By diagnostic category, neurosis and personality disorders come first with 140 or 46.7 %, followed by 61 or 20.3 % with schizophrenia, 45 or 15 % with alcohol and drug dependence and 25 or 8.3 % with organic psychoses. Nearly half the patients (48.7 %) are single, and only 28 % are married, the remainder being widowed, divorced, etc.

Types of contact at first entry

Tables C3–C5 and Fig. C2 show that 59 % of the cohort entered as outpatients. The very small percentage entering as day patients (0.3 %) is

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100 %	Type of contact at entry		
		Outpatient	Inpatient	Day patient
Males	129	54.3	45.0	0.8
Females	171	62.6	37.4	
Total	300	59.0	40.7	0.3

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	< 15	15–19	20–24	25–44	45–64	65–74	75–84	⩾ 85	
Outpatient		2	34	86	35	8	10	2	177
Inpatient		2	21	63	16	8	10	2	122
Day patient		1							1
Total		5	55	149	51	16	20	4	300

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis*										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	11	28	3		94	26	1	9		5	177
Inpatient	14	33	5		45	19		3		3	122
Day patient					1						1
Total	25	61	8		140	45	1	12		8	300

* The following diagnostic groups have been used:

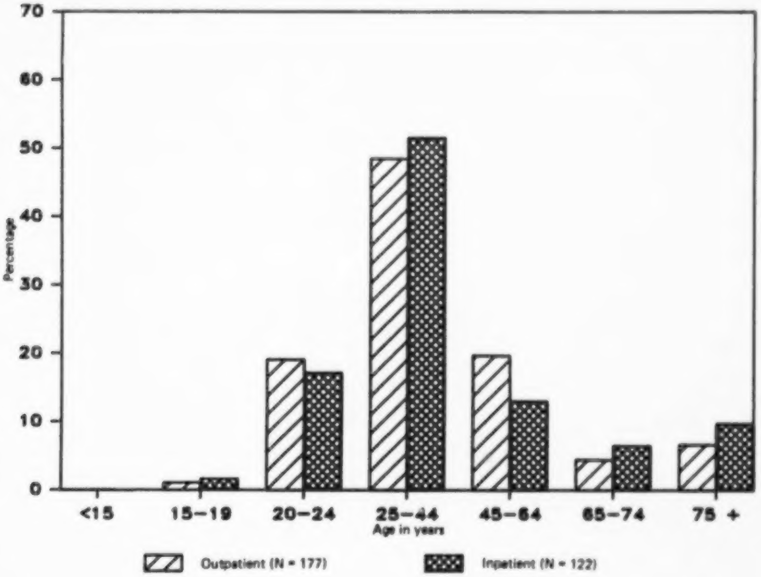
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

due to the fact that this service is mainly used by patients discharged from hospital. Women, those aged between 45 years and 64 years, and patients with neurosis or mental retardation entered the cohort more often as outpatients than others.

Types of contact during the first year

Table C6 shows further that the initial 40.7% of patients admitted increased to 53% during the first year, of whom most (42 of the 53%) received inpatient care combined with outpatient and/or day patient care. The others often received (21%) outpatient care for more than three months, and the percentage with frequent contacts (28%) was twice as large as the percentage receiving care with less than one outpatient contact every two weeks (14%). The number of patients with one outpatient contact only was very limited (5%); all such patients were suffering from either neurosis or alcohol or drug dependence.

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Table C7 and Fig. C3 are that 75% of both patients who started as inpatients and those who started as outpatients had left the services after one and a half years, 51% having left after only six months. Only patients with schizophrenia and paranoid states became chronic users, 46% still having contacts at the end of the two-year follow-up period. Table C8 could not be completed for the pilot study area because of the way in which data on outpatient contacts were collected, i.e. not per contact but cumulatively over a period of three months.

Caseload features

Table C9 shows clearly that the heaviest burden falls on the services during the first two weeks. Thereafter the number of outpatient contacts per 100 patients per week slowly declines; there is then a slight increase in the second half of the first year, followed by a further decline in the second year. The number of occupied beds decreases, especially during the first six months, and then slowly drops to 4.3 per 100 patients after two years.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7[c]	1–5	6–7	
Organic psychoses			12	4	4	28	52	20	80	25
Schizophrenia and paranoid states		2	3	7	13	7	69	25	75	61
Affective psychoses		13	13	13			63	38	63	8
Other psychoses										
Neurosis and personality disorders	5	5	22	16	14	9	29	62	38	140[d]
Alcohol and drug dependence	18	5	16	2	2	20	36	43	57	45[e]
Mental retardation						100		0	100	1
Other		8	25	8	25		33	67	33	12
No psychiatric diagnosis										
Not known			38			13	25	38	38	8
Total	5	4	17	10	11	11	42	47	53	300

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 2 day patients who have not been inpatients.

[c] Including 1 day patient who has not been an inpatient.

[d] For one patient, type of contact unknown.

[e] For two patients, type of contact unknown.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]						N = 100%
	30	60	90	182	365	548	
Organic psychoses	24	28	36	56	76	84	25
Schizophrenia and paranoid states	10	16	18	33	43	54	61
Affective psychoses	13	25	25	38	50	75	8
Other psychoses							
Neurosis and personality disorders	31	39	46	54	69	79	140
Alcohol and drug dependence	47	58	64	69	80	89	45
Mental retardation	0	0	0	0	100	100	1
Other	17	33	42	42	67	67	12
No psychiatric diagnosis							
Not known	50	63	63	63	75	75	8
Total	27	36	42	51	66	75	300

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

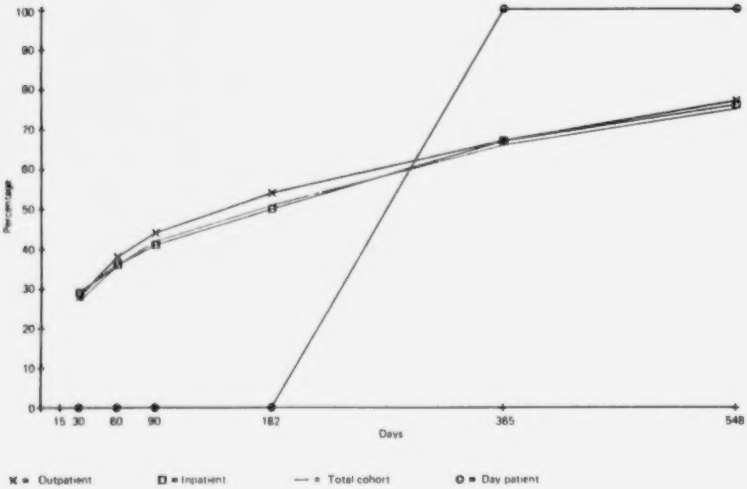


Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category*

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses									
Schizophrenia and paranoid states									
Affective psychoses									
Other psychoses									
Neurosis and personality disorders									
Alcohol and drug dependence									
Mental retardation									
Other									
No psychiatric diagnosis									
Not known									
Total									

* This table could not be completed for the reasons given on p. 298.

Table C9. Caseload features: number[a] of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[b]			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15 16–30	165	57	74	80.5	0.4	28.9
31–60	92	32	44	37.1	0.6	19.0
61–90	68	32	28	30.0	0.7	14.5
91–182	81	15	37	23.8	0.9	9.6
183–365	82	12	37	26.0	0.8	7.1
366–548	61	8	24	16.1	0.5	5.1
549–730	43	5	22	14.1	0.3	4.3
First year	139	27	130	31.3	0.8	11.1
Second year	59	7	33	15.1	0.4	4.8
First and second year	135	25	136	23.1	0.6	7.9

[a] No information available for four patients.

[b] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care, 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Evaluation of the services after the study

The major problems which arise in considering the operation of the services over the last 25 years are those of chronic patients and elderly people.

Do chronic patients still have a place in the Association's institutions? Most of them have been there for many years, and there is little likelihood that their condition will improve. If they remain in these institutions, this is sometimes because of their serious social handicaps. Such psychotic patients remain the responsibility of psychiatry, although psychiatry can do no more to help them. Some of the Association's psychiatrists feel that, if psychiatry can no longer help these patients, this is because they no longer constitute a psychiatric problem. These psychiatrists therefore suggest that there is a need for services intermediate between psychiatric services and community-based care. Would the responsibility for the creation of such services be that of the psychiatric authorities or of other authorities? Some of the Association's psychiatrists think that the Association has created enough services; experience shows that as more services are created, the number of patients for them to deal with increases accordingly. It is perhaps necessary to think of finding somewhere else for these patients outside the field of active psychiatry. Some members of the Mental Health Association have set up another form of association with the aim, not so much of providing care, but rather of giving help and support to these chronically ill patients.

Other psychiatrists, on the contrary, think that the essential task of psychiatric intervention is to combat the negative effect which these patients have on the medical teams, whose inability to develop new approaches is the direct result of the repetitive behaviour of such patients. They believe that institutional therapy, if properly handled, can prevent psychiatrists and other personnel from becoming bogged down in this way.

As far as the problem of the elderly is concerned, it is clear that it goes beyond the limits of psychiatry. If it is remembered that the average cost to the state of keeping an elderly person in hospital is, on average, FF 500 per day, it is clear that it is too expensive to keep such a person in a psychiatric hospital when his condition is no longer such as to require this. However, such patients are sometimes kept in a psychiatric hospital because there is nowhere else for them to go that would be appropriate to their condition.

French health insurance does not cover the effects of old age and, under French law, the children of parents whose income is insufficient to pay for their own retirement needs nevertheless have certain obligations with regard to those parents. This situation may again result in some elderly people being kept in hospital when their state of health no longer justifies this.

The Association has a psychogeriatric ward at the Hôpital l'Eau Vive. It was set up in 1969 and at that time comprised two seven-bed units, most users initially being women. These units were set up less to provide specific care than to ease hospital overcrowding. It quite soon became clear that this arrangement was unsatisfactory.

This ward was then reduced to a single unit for eight patients. The arrival of Dr Balier saw the creation of a psychogeriatric ward in which he planned to study the problems connected with the aging process. At that time, the ward had 24 beds divided into three sections, for advanced dementia, physical handicap or deterioration, and depression or delirium.

The ward, which now has 28 beds, was taken over on Dr Balier's departure by Dr Angelergues, who was also interested in studying the problems connected with aging, from both the clinical (study of depression) and psychopathological or metapsychological points of view.

The ward contains patients exemplifying practically the whole range of states possible between the ages of 55 and 90 years. It is, indeed, difficult to define the point of entry into old age, both for the individual and for society. However, it is clear that isolation is one factor that speeds up the aging process.

In general, putting elderly people together gives them a more peaceful life.

The work of the ward therefore consists, above all, in the creation of an atmosphere, rather than in the application of special techniques. More than elsewhere, the personnel are mainly concerned with bodily care and the activities organized here are also more closely guided than in other wards.

Patients on arrival in this ward are usually in a state of psychological instability. Some of them regain their stability and leave for long-stay sanatoria. However, it is difficult to obtain places in homes for the elderly for those with a history of psychiatric treatment. Other patients go back to their families or go to the Adult Adoption Service. Those whose income is sufficient are sent to private homes. The average length of stay of patients in the ward is two years.

As a result of the profound social changes that have taken place in the 13th *arrondissement*, the role of the psychiatrist is often more social in character than therapeutic. Because the street is no longer a community, he often finds himself trying to give back to the patient the feeling of social solidarity which has been lost.

Mannheim, Federal Republic of Germany

The pilot study area

General and geographical information

The pilot study area, the city of Mannheim, is situated at the junction of the rivers Neckar and Rhine. Favoured by its location on two navigable rivers, Mannheim has the largest inland harbour of the country and since the last century has developed into a centre of trade, traffic and administration. In addition, it has a university, a medical faculty of Heidelberg University, a polytechnic institute and the Central Institute of Mental Health.

Mannheim covers an area of 145 km^2 and had a population of 311 531 inhabitants in 1976, giving an average population density of 2148 inhabitants per km^2. The density is much higher in the densely populated centre than in the peripheral areas.

During the 1950s and 1960s, the population of Mannheim grew at a fairly constant rate, resulting in an increase of 35%. Throughout the 1970s, a rapid decrease took place with a population loss of 7–8%; this was followed by a slight increase at the beginning of the 1980s. The heavy loss in the 1970s was the result of the continuous fall in the birth rate, which continued until 1975. Throughout the 1970s, the number of deaths exceeded the number of births.

Sociodemographic profile

Population by sex, age and marital status

The impact of the development mentioned above can be illustrated by the age structure of the population in 1976 (Fig. 1), the year in which the data on the patient census and cohort patients were collected. Children constitute a comparatively small proportion of the total population, while the proportion of the elderly (65 years or over) is comparatively high, amounting to 15.7%.

Table 1 shows the distribution of the population by sex, age and marital status in 1973. In particular, it shows the high proportion of widowed and divorced among the population aged 65 years or over: 44% of this age-group were either widowed or divorced, and a further

Fig. 1. Age and sex structure of the population of Mannheim, 1976

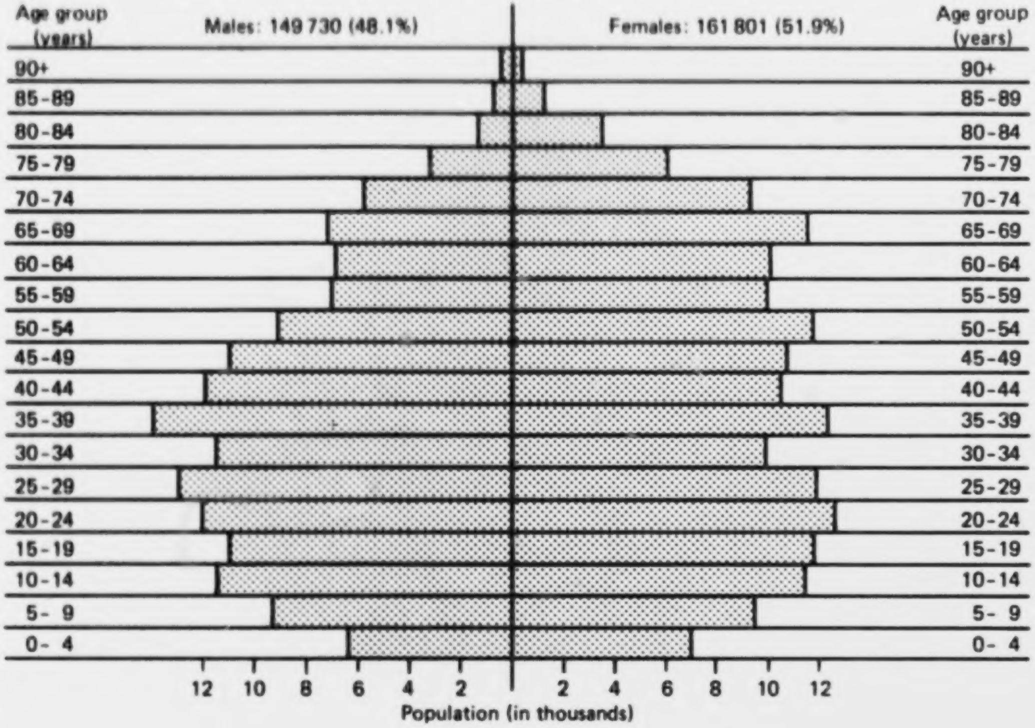


Table 1. Population of Mannheim by sex, age and marital status, 1973

Age group (years)	Males					Females				
	Single	Married	Widowed	Other	Total	Single	Married	Widowed	Other	Total
0–14	30 307				30 307	28 757	3			28 760
15–24	20 347	2 722	12	99	23 180	15 317	6 409	37	316	22 079
25–44	12 088	39 565	241	2 419	54 313	5 457	34 477	705	2 959	43 598
45–64	1 895	29 287	1 111	1 500	33 793	3 927	28 223	8 087	2 831	43 068
65–74	417	10 412	1 609	352	12 790	1 938	7 719	8 934	813	19 404
75 +	126	2 712	1 511	78	4 427	982	1 596	6 847	242	9 667
All ages	65 180	84 698	4 484	4 448	158 810	56 378	78 427	24 610	7 161	166 576

7.5% were single. Thus, the proportion of persons living alone among this population group was over 50%.

Employment and main economic activities

In 1970, approximately 48% of the total population were economically active. The ratio between the number of persons aged between 20 and 65 years in the labour force and the number of the same age in the general population (labour force participation rate) was 794 per 1000. By far the largest proportion (53%) were employed in industry, followed by services (26%), trade and commerce (20%) and less than 1% in agriculture. Industry in Mannheim is highly diversified, including automotive and mechanical engineering, manufacture of pharmaceutical products, petroleum refining, and food and textiles.

Unemployment was very low in 1970 with only 515 persons registered as out of work. This, however, changed drastically, and in 1975 there were 7625 registered unemployed.

Population distribution and housing

Generally speaking, Mannheim is a homogeneous urban area but with marked differences in population density, varying from 20100 inhabitants per km^2 in the centre to 680 inhabitants per km^2 in the periphery. Although the peripheral areas are still rural in character to some extent and the intermediate zone includes former villages, there is no real boundary between urban and rural areas but rather a continuum in which purely urban lifestyles prevail. Since large parts of Mannheim were destroyed during the Second World War, more than half (56%) of all dwellings have been built since 1949, the majority having three or four rooms.

All dwellings had piped water, gas or electricity, and 80% had good sanitary installations; 13% had a toilet only, and 6% did not have an inside bath or toilet.

In 1979, the average number of persons per dwelling was 2.3, which gives a room occupancy of 0.7 persons per room.

Main ethnic and religious groups

According to the last census, 47.4% of the population were Protestants and 42% Roman Catholics.

More important is the proportion of migrant workers, which is 12% in Mannheim compared to 9% in the *Land* of Baden Württemberg and 6% in the Federal Republic of Germany. In 1976, the vast majority of the migrant workers came from Turkey (29%), Italy (20%), Yugoslavia (16%), Greece (8%) and Spain (7%).

The importance of the high proportion of foreign-born inhabitants lies not in the demographic fact as such but in its consequences for the age composition because of the high birth rate of this population group.

The percentage of the foreign-born population in the age-groups 0–10 years and 25–50 years in 1979 exceeded the average for the total population. This means that one in three children under five years and one in four between five and ten years have foreign-born parents. This is the result of the difference in birth rates of the German and foreign-born population groups.

The population loss in the last decade can largely be explained by the reduced number of births among the German part of the population. The large foreign-born population does not seem to pose any special problems, since crime rates in this group are not above average while their demand for treatment by the mental health services is considerably lower.

Indicators of social stability

The number of suicides per 100 000 population in Mannheim (28.8 in 1972) was considerably above the average for the Federal Republic of Germany (19.8) in the five-year period from 1968 to 1972. Registered attempted suicides increased continuously in both sexes, both in absolute terms and as rates per 100 000 population, from 1967 to 1976, when there were 492 (182 male and 310 female), giving a rate of 157.9 suicide attempts per 100 000 population. The number of criminal offences registered in Mannheim in 1975 for the 14–18-year age group was 1198 (6960 per 100 000 population of the same age), of which 185 were offences against the person and 976 against property. For the adult population (18 years or over) the corresponding figures were 6517 registered offences (2620 per 100 000 population over 18 years), 2047 against the person and 3901 against property.

Health and welfare system

Since general health care in the pilot area is not very different from that in densely populated urban areas of the Federal Republic of Germany, reference can be made to the published description of health services in the country.[a] For this reason, only certain features of the health service system will be considered here, as follows.

(1) The fact that the state is federal in character means that the Federal Government has no general legislative powers in the health field; responsibility for such legislation lies with the *Länder*.

(2) In 1976, the gross national product amounted to 1 135 100 million marks, and the share of the social budget was 31.4%. Of the social budget, about 40% was spent on the care of the elderly and dependents, about 30% on health, and about 15% on assistance to families.[a]

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[a] *Health Services in Europe*, Vol. 2, *Country reviews and statistics*. Copenhagen, WHO Regional Office for Europe, 1981, pp. 71–77.

(3) A statutory health insurance system exists in the Federal Republic of Germany which covers about 90% of the population. A further 8% have insurance coverage under private insurance schemes. No distinction is made between psychiatric disorders and somatic disorders from the point of view of health insurance.

(4) The health care system includes both public and private sectors: inpatient care is provided by hospitals, most of which are operated by public authorities or voluntary bodies. Outpatient care is provided by physicians or specialists in private practice and by hospital outpatient clinics or special services.

(5) Whereas health care planning is designed to secure an equitable distribution of health care resources, some differences remain, particularly in the distribution of outpatient services between urban and rural areas and between the central and peripheral areas of cities.

Health services

Mannheim has five general hospitals (including two neurological clinics) with a total of 3529 beds (10.8 beds per 1000 inhabitants) and an average bed occupancy rate of 85%. The total number of beds in all the hospitals and medical establishments in the Federal Republic of Germany in 1977 was 11.8 per 1000 inhabitants and the bed occupancy rate was 82.9%.

All five general hospitals also admit patients from outside Mannheim; on the other hand, patients from the city are also treated in hospitals outside it, e.g. in the nearby university hospital in Heidelberg.

In 1975, there were 114 general practitioners and 233 specialists in private practice in Mannheim, i.e. one general practitioner or specialist per 911 inhabitants.

The general health situation

Morbidity data are not available. In 1973, infant mortality (number of deaths under one year of age per 1000 live births) was 23.2 in Mannheim and 22.7 in the Federal Republic of Germany.

Over the period 1974–1976, life expectancy at one year of age in the Federal Republic of Germany was 68.8 years for males and 75.1 years for females. In 1970–1972, the six leading causes of death (in percentages of all causes of death) in Mannheim were:

	1970	*1971*	*1972*
1. Diseases of the heart	23.7	23.5	27.2
2. Malignant neoplasms	20.7	22.4	22.6
3. Cerebrovascular diseases	14.4	14.2	12.9
4. Accidents	5.7	5.0	5.1
5. Diseases of the respiratory system	5.5	3.3	4.6
6. Suicides	2.4	2.0	1.9

Mental health services

Existing facilities

At the start of the WHO project on mental health services in pilot study areas in 1973, psychiatric care for the mentally ill in Mannheim was provided mainly by a state mental hospital, a psychiatric university hospital, two district nursing homes, an institution for the mentally retarded and multiply handicapped (all located outside the pilot area), ten psychiatrists in private practice, an outpatient department of the social-psychiatric university hospital of Heidelberg, two sheltered workshops and two neurological departments located inside the area.

All facilities treated patients from both inside and outside the pilot area. In the first patient census, carried out in Phase 1 of the project (census day was 30 May 1973), in which patients of private psychiatrists were not included, 724 psychiatric patients were counted; 618, or 85%, were being treated as psychiatric inpatients (including 87 who were mentally retarded) and 106, or 14.7%, were being treated as outpatients in the outpatient department or had places in the sheltered workshop.

Since 1973, the structure of the system of services has changed considerably since the Central Institute of Mental Health (CIMH) started operation in the centre of Mannheim in 1975. With the opening of the CIMH, not only was there an improvement in inpatient care for the inhabitants of Mannheim, but also outpatient and other services (sheltered homes, apartments, workshops and services for crisis and emergency care) became available in recent years. Over this period, changes in the following three fields occurred.

(1) Changes with regard to treatment episodes. "The total number of treatment episodes has increased by more than 100% from about 1.1 to about 2.2 per 1000 inhabitants aged over 14, mainly at the oupatient level of care. Admissions to hospital showed an increase of about 40%, whereas bed occupancy remained stable . . ."[a]

(2) Changes in inpatient treatment. If the lengths of hospital stays for several years are compared, it can be shown that long-term hospital stays (measured by occupied beds) decreased and short-term hospital stays increased; this means that, for nearly the same number of beds, more patients are treated more often. In comparison with the situation before the introduction of the community mental health service, patients who need long-term hospital treatment nowadays are admitted at a higher age. Furthermore, changes in the diagnostic composition occurred: the proportion of those with neurosis and personality disorders and of alcohol and drug dependents increased, whereas that of schizophrenic patients diminished.

(3) Changes in the treatment pattern of schizophrenic patients within the observed period. There is a shift of long-term treated schizophrenic

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[a] **Häfner, H. & an der Heiden, W.** Evaluation gemeindenaher Versorgung psychisch Kranker. Ergebnisse von 4 Jahren wissenschaftlicher Begleitung der Aufbauphase des Mannheimer Modells. *Archiv für Psychiatrie und Nervenkrankheiten*, **232**: 71–95 (1982).

patients from psychiatric hospitals to psychiatric homes with the consequence that more schizophrenic patients who need long-term treatment live outside the hospitals in homes and in the community. Thanks to intensive use of extramural services, the probability of readmission for inpatient treatment has been reduced.

The inpatient, day patient and outpatient services available within and outside the pilot area do not serve patients from the city of Mannheim alone. Because of this, it is not possible to calculate staff/patient ratios, even if reliable information could be obtained on the number of occupied and unoccupied posts.

As mentioned above, the authorities responsible for the inpatient services are public institutions (*Länder* or communities), with only a few exceptions. Outpatient care is provided mainly by public authorities, but sometimes by welfare associations (churches) and private psychiatrists. The cost of the services was covered by the statutory or private insurance schemes.

Services providing care

The services participating in the census and cohort studies are listed below.

(1) *Mental hospitals*
—CIMH department of psychiatry
—CIMH department of psychosomatic medicine
—psychiatric university hospital
—state mental hospital (including Kirchgrund Wieslow)
—district nursing home (Weinheim)
—district nursing home (Sinsheim)
—nursing home (St Leon/Roth)
—psychosomatic hospital (Herrenalb)
—psychosomatic hospital (Gengenbach)

(2) *General hospitals providing psychiatric services*
(a) With separate psychiatric units:
—neuropsychiatric unit of general hospital (Heinrich Lanz Hospital)
(b) With general psychiatric inpatient service:
—neurological department of the university general hospital, Mannheim
—neurological department of the Ludwigshafen general hospital

(3) *Mental health day/night facilities*
—CIMH day hospital (Heidelberg/Mannheim)
—sheltered workshop I
—sheltered workshop II

(4) *Sheltered homes*
—Elisabeth Lutz Home
—St Anna Home

(5) *Outpatient psychiatric clinics*
—CIMH psychiatric outpatient department

—CIMH psychosomatic outpatient department
—CIMH emergency service (night)
—CIMH psychiatric consultation service at the university general hospital, Mannheim (day)
—CIMH emergency service at the university general hospital (night)
—neuropsychiatric outpatient department and department for forensic psychiatry in the general hospital (Heinrich Lanz Hospital)
—public health office of Mannheim
—psychiatric outpatient department at the psychiatric university clinic, Heidelberg
—psychiatric aftercare mental hospital, Wiesloch.

Patient census and cohort study

Patient census

Census day was 15 July 1976. A total of 1564 patients aged 15 years or more were in treatment in the various services. There were slightly more females (53.5%) than males (46.5%). The prevalence rates (number of patients per 1000 population of the same sex/age category) were 5.9 for males (ranging from 4.8 for those 65 years or over to 6.6 for those aged 25–44 years) and 6.1 for females (ranging from 5.5 for those aged 65 years or over to 6.8 for those aged 25–44 years).

The criterion used for the definition of inpatients and day patients was that the patient occupied a bed or place at the time of the census. Outpatients were patients for whom the beginning and/or end of outpatient treatment took place within the period six weeks before the census day to six weeks after it. This means that the beginning and/or end of treatment had to be between 1 June and 31 August 1976. Altogether 505 inpatients, 213 day patients and 846 outpatients were counted. Of the 505 inpatients, 465 were in the mental hospital, 15 in the general hospital providing psychiatric service and 25 in hostels (sheltered homes); patients in the last two groups were younger than those in the first.

More than half the inpatients were single. The inpatients have a mean age of 51 years (50 years for males and 56 years for females). The patients in day care are on average 20 years younger than the inpatients and none of the day patients was over 65 years of age. Two-thirds of the day patients were males and the large majority (87.8%) of all day patients were single. More than half of the day patients (53.7%) were males under 45 years of age and living alone. Nearly 60% of the outpatients were females, the sex difference increasing with age. 45.5% of the male outpatients were single. The outpatients had a mean age of 41.4 years, i.e. ten years older than the day patients and ten years younger than the inpatients.

Of the census population, 12.5% were divorced as compared to 3.6% in the general population.

Of the day patients, 42.2% were mentally retarded and had a place in one of the sheltered workshops. More than two-thirds (68.9%) of these were males under 45 years of age; 38% of the day patients were schizophrenics, 69% of them being males.

Of the census population, 51.6% of the patients with an organic brain syndrome were being treated in mental hospitals, but 44.6% were nevertheless counted in outpatient facilities. Of the schizophrenic patients (who were exceeded only by patients with neurotic and personality disorders and therefore constitute the second largest group in the census population), 53% were treated in inpatient facilities, 25.3% in outpatient services and 21.7% in day care. Most schizophrenic patients were under 65 years of age. The age composition of schizophrenics was different as between different types of treatment: whereas all schizophrenic patients in day care were under 65 years of age, the proportion in this age-group among the outpatients was 88.3% but only 72.1% among the inpatients. About 5% of all census patients had the diagnosis "affective psychosis", and three-quarters of these patients were females. Most frequently represented was the diagnostic category "neurosis and personality disorders"; 26.9% of the census population belonging to this group, and by far the majority of these patients (88.4%) were in outpatient services. Finally, the relatively high proportion of patients with alcohol- and drug-related disorders should be emphasized. They accounted for 16.4% of the outpatients, and a high proportion of them (62.2%) were under 45 years of age.

The percentages of long-stay inpatients and day patients were almost the same for schizophrenic and mentally retarded patients. As far as the other diagnoses (such as affective psychoses, neurotic and personality disorders and alcohol- and drug-related disorders) were concerned, low percentages of all patients with these diseases were treated in day care facilities, and among these selected patients there were a high proportion with long stays. Among the outpatients, only a few remained in contact with outpatient services for more than one year during one treatment episode.

Cohort study

All consecutive cases entering one of the mental health services cooperating with the Cumulative Psychiatric Case Register of Mannheim (see page 312) between 1 and 31 July 1976 were included provided that they were residents in the area, were over 14 years of age, and had not been in contact with any of the services for at least six months prior to entry. All patients were followed up until the end of June 1978.

The total cohort thus collected consisted of 250 patients, with a high (62%) proportion of females. This was especially noticeable in patients aged 35 years or over. In the general population, a decreased proportion of males only appears from the age of 55 years or over.

Of the cohort, 61% were under 45 years of age and 21% were 65 years or over; 25% of the females and 14% of the males were in this age-group.

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 250) (see also Fig. C1)

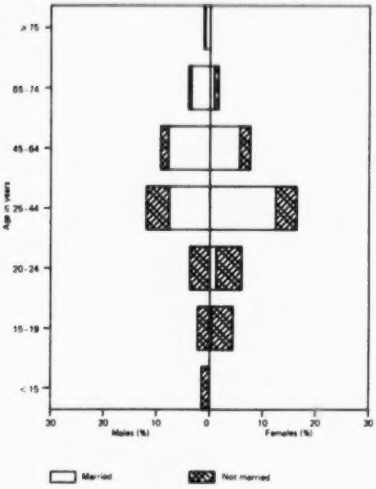
Marital status	Sex	Age in years								Not known	Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85		
Single	M		3.6	4.8	9.2	1.6		0.4		0.4	20.0
	F		4.0	4.8	4.0	2.0	0.8				15.6
Total			7.6	9.6	13.2	3.6	0.8	0.4		0.4	35.6
Married	M				6.4	2.4	2.4	0.4			11.6
	F		0.4	1.2	12.4	5.6	0.8				20.4
Total			0.4	1.2	18.8	8.0	3.2	0.4			32.0
Widowed	M						0.4	1.2			1.6
	F				0.4	3.2	5.2	5.2	0.8		14.8
Total					0.4	3.2	5.6	6.4	0.8		16.4
Divorced/ separated	M				3.6	0.4		0.4			4.4
	F				5.2	2.8	0.4	0.8			9.2
Total					8.8	3.2	0.4	1.2			13.6
Not known	M										
	F			0.4	0.4		0.4	1.2			2.4
Total				0.4	0.4		0.4	1.2			2.4
Total	M		3.6	4.8	19.2	4.4	2.8	2.4		0.4	37.6
	F	0.4	4.4	6.4	22.4	13.6	7.6	7.2	0.8		62.4
Grand total		0.4	8.0	11.2	41.6	18.0	10.4	9.6	0.8	0.4	100.0

The largest diagnostic group was that of neurosis and personality disorders (40 % of the cohort, 33 % of the males and 44 % of the females) followed by alcohol and drug dependence (14 %, 23 % of the males and 9 % of the females), organic psychosis (13 %, mainly elderly females), other diagnosis (12 %), schizophrenia (11 %), affective psychoses (6 %, mainly females) and mental retardation (2 %).

Types of contact at first entry

Nearly 80 % of the cohort entered as outpatients and 21 % as inpatients, of whom 25 % had organic psychoses, 20 % affective psychoses and 21 % neurosis and personality disorders. Of the married patients, 80 % entered as outpatients and 20 % as inpatients. Of the widowed and divorced/separated patients, slightly higher proportions entered as inpatients (32 % and 24 % respectively).

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 250)
(See also Table C1)



Types of contact during the first year

Of the total cohort, 43% had one outpatient contact only. These patients either did not need treatment or were referred to general practitioners and psychiatrists in private practice, the diagnosis most often being neurosis or alcohol and drug dependence. On the other hand, inpatient treatment was considered necessary for more than 60% of those diagnosed as psychotic and 39% of the cohort received both inpatient and outpatient treatment, two-thirds of them having a maximum of one outpatient contact.

Percentages of patients and types of contact during the follow-up episodes of care

After six months, only 20% of the outpatients and 32% of the inpatients continued to be in contact with the services, while 71% of the neurotics and 61% of the alcoholics had short outpatient care only. Of the psychotics, 37% had short outpatient treatment while, for 50% of them, short- or long-term inpatient treatment was provided. Only 2.4% of the cohort became chronic users of the services.

The rapid decline in the utilization of mental health services over time is shown in Table C7. The proportion of patients treated only in outpatient services diminishes during the first month from 79% to less than 10%. Correspondingly, the proportion of patients who are no

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Not known	Total
		<25	25–44	45–64	≥65		
Organic psychoses	M		3	1	4		8
	F	1	1	1	22		25
Total		1	4	2	26		33
Schizophrenia and paranoid states	M	2	9	3			14
	F	1	5	4	3		13
Total		3	14	7	3		27
Affective psychoses	M		1		2		3
	F		2	7	4		13
Total			3	7	6		16
Other psychoses	M						
	F			1			1
Total				1			1
Neurosis and personality disorders	M	8	18	3	2		31
	F	18	32	14	5		69
Total		26	50	17	7		100
Alcohol and drug dependence	M	8	9	3	2		22
	F	2	7	4	1		14
Total		10	16	7	3		36
Mental retardation	M	1	2				3
	F	2	1				3
Total		3	3				6
Other	M	2	6	1	3	1	12
	F	3	8	3	3		18
Total		5	14	4	7	1	31
No psychiatric diagnosis	M						
	F						
Total							
Total	M	21	48	11	13	1	89
	F	27	56	34	39		156
Grand total		48	104	45	52	1	250

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry		
		Outpatient	Inpatient	Day patient
Males	94	77.4	21.5	1.1
Females	156	78.2	21.2	0.6
Total	250	78.0	21.2	0.8

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Not known	Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85		
Outpatient		17	25	82	36	18	15	1	1	195
Inpatient		3	2	21	9	8	9	1		53
Day patient			1	1						2
Total		20	28	104	45	26	24	2	1	250

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	20	20	6	1	88	29	5	26			195
Inpatient	13	7	10		11	7		5			53
Day patient					1		1				2
Total	33	27	16	1	100	36	6	31			250

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

longer in treatment increases to 70% over the same period. A slight increase from 22% to 29% during the first month is noticeable for patients treated only in inpatient services. Correspondingly, the proportion of patients without any further contact increases from 70% to 85%. This movement of patients, of course, shows different trends in the different diagnostic categories. Psychotic patients have the highest

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

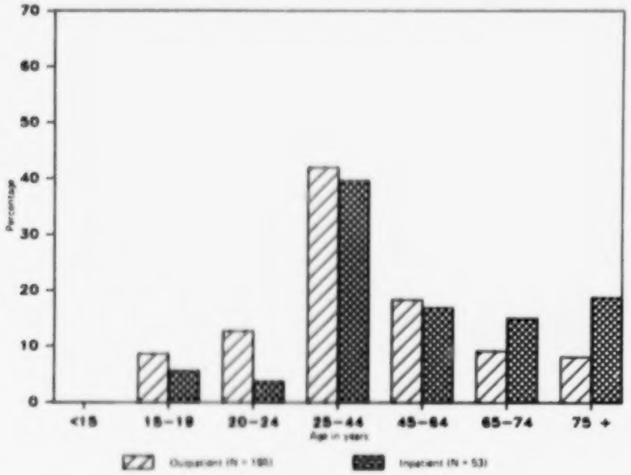


Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7	1–5	6–7	
Organic psychoses	42		3			48	6	45	55	33
Schizophrenia and paranoid states	26			11		30	33	37	63	27
Affective psychoses	13		13	6		50	19	31	69	16
Other psychoses	100							100	0	1
Neurosis and personality disorders	51	4	12	7	1	13	12	75	25	100
Alcohol and drug dependence	47	3	3	8		28	11	61	39	36
Mental retardation	17	17	17	17		33		67	33	6
Other	48	3	10	3	3	23	10	67	33	31
No psychiatric diagnosis										
Not known										
Total	43	3	8	6	1	26	13	61	39	250

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 3 day patients who have not been inpatients.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	55	61	64	70	85	87	87	33
Schizophrenia and paranoid states	15	19	19	26	37	59	81	27
Affective psychoses	31	37	50	63	82	82	88	16
Other psychoses	100	100	100	100	100	100	100	1
Neurosis and personality disorders	58	64	69	74	82	90	94	100
Alcohol and drug dependence	53	56	62	68	71	79	85	36
Mental retardation	33	33	67	67	67	67	83	6
Other	55	61	71	81	91	91	97	31
No psychiatric diagnosis								
Total	50	55	61	67	76	84	90	250

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	45.5		21.2	21.2	3.0	3.0	6.1		33
Schizophrenia and paranoid states	33.3	3.7	18.5	37.0	7.4				27
Affective psychoses	18.8	12.5	43.8	12.5		6.3	6.3		16
Other psychoses	100.0								1
Neurosis and personality disorders	71.0	5.0	12.0	4.0	2.0	4.0	2.0		100
Alcohol and drug dependence	61.1		27.8	5.6	2.8		2.8		36
Mental retardation	83.3							16.7	6
Other	64.5	3.2		6.5		3.2			31
No psychiatric diagnosis									
Total	58.4	3.6		10.8	2.4	2.8	2.4	0.4	250

[a] Episodes of care:

1 = Outpatient, short

Some outpatient contacts, but no "long episode", i.e. comprising six contacts or more.

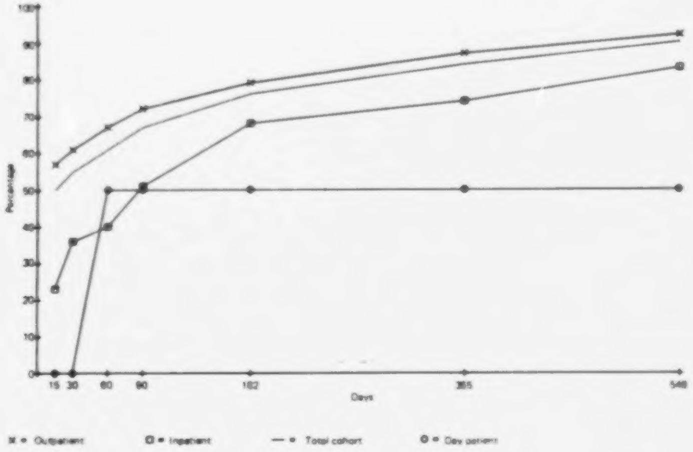
2 = Outpatient, medium or long but not chronic

One long episode. Two types of long episodes are characterized by the following averages:

	Type 1	*Type 2*
Number of events	11	9
Length	115 days	269 days
Average interval between two events	11 days	33 days
Maximum interval	22 days	63 days
Concentration	0.25	0.27

proportion in long-term treatment, but even in this group the duration of care diminishes constantly during the period of observation: after 60 days, only 40 % and, after one year, only 20 % of these patients are still in psychiatric treatment. Patients with alcohol and drug problems have the most extreme pattern of treatment. In this group, the proportion of treated patients declines from 100 % to less than 10 % during the first three months of treatment. On the other hand, it increases, because of the number of relapses, over the two-year follow-up period to almost 20 %. Thus, after two years, the proportion of such patients in treatment is higher than that of the psychotic patients.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



Footnotes to Table C8.

3 = **Inpatient, short**
One "stay" in hospital or more, each of less than 40 days.
4 = **Inpatient, medium or long but not chronic**
One stay in hospital of between 40 and 500 days; *or*
several stays in hospital, each of between 40 and 210 days.
5 = **Mixed types of care, short**
One stay in hospital and one "short outpatient episode". The length of the stay is less than 40 days; the number of outpatient contacts is between two and five.
6 = **Mixed types of care, medium or long but not chronic**
One stay in hospital followed by a long outpatient episode. The length of the stay is 33 days. The episode belongs to type 1 above (see 2); *or* one short episode followed by a stay in hospital of between 40 and 100 days.
7 = **Chronic**
Stays in hospital; *or*
stays in hospital and outpatient episodes; *or*
stays in hospital and day hospital,
some isolated outpatient contacts
} length of stay in hospital is more than 500 days
8 = **Not classified elsewhere**
One stay in day hospital.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:*			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	171	54	25	46.9	0.4	24.8
16–30	16	58	4	5.4	1.2	20.1
31–60	22	49	2	3.3	1.2	14.2
61–90	13	37	2	2.0	0.8	11.1
91–182	15	26	5	1.7	0.8	6.3
183–365	17	12	10	0.8	0.8	3.3
366–548	14	8	7	0.5	0.8	1.9
549–730	8	9	8	0.6	0.6	1.8
First year	153	44	53	3.4	0.9	7.2
Second year	18	9	14	0.5	0.7	1.9
First and second year	147	39	64	2.0	0.8	4.5

* These three columns show the actual number of patients receiving care in the successive periods: 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Caseload features

These are shown in Table C9. The major burden is clearly placed on the services in the first two weeks, after which there is a sharp fall. Measured in number of contacts per week per 100 patients, outpatients constitute a small and decreasing burden after the first two weeks. For inpatients, there is a steady decrease which is most pronounced after the first three months.

Athens, Greece

The pilot study area

General and geographical information

The Athens pilot study area consists of the boroughs of Byron and Kessariani, with a total of 74 262 inhabitants at the 1971 census. In view of the rate of population increase in the two areas, the total was expected to reach 100 000 by 1981. The two boroughs were established in 1920 when refugees from Asia Minor, repatriated to Greece, settled in the area. Both constitute autonomous areas (*demos*), from both the administrative and religious points of view. They cover an area of 3.85 km² and are located at the foot of Mount Hymettus, approximately 4 km east of the city of Athens.

As part of the Greater Athens area, the two boroughs benefit from all the advantages of the capital in terms of transport and communication, as well as cultural facilities and opportunities.

The climate of the area is mild and, since there are no heavy industries in the area, the level of pollution is low.

Sociodemographic profile

Population by sex, age and marital status

At the 1971 census, the total population was 74 262, 47.5 % being males and 52.5 % females. Of the males, 22 % were under 15 years of age and 9 % were aged 65 years or over. Of the females, 18 % were under 15 years of age and 13 % were aged 65 years or over. Of the population aged 15 years or over, 63 % of the males were married and 34 % were single; of the females, 59 % were married, 24 % were single, and 15 % were widowed. Compared to the age distribution of the Greater Athens area, the population of the pilot study area is slightly older (see Tables 1 and 2).

Employment and main economic activities

At the 1971 census, approximately 41 % of the population were economically active (65 % of the males and 20 % of the females). Unemployment was 3 % for the males and 5 % for the females. For both sexes, the highest rates were in the 15–24-year age-group. The un-

Table 1. Population by sex and age, absolute and as a percentage of total population, 1971

Sex	Age in years					Total
	< 15	15–24	25–44	45–64	≥ 65	
Absolute						
Males	7754	5960	10 400	7928	3256	35 298
Females	6954	5744	11 308	9968	4990	38 964
Total	14 708	11 704	21 708	17 896	8246	74 262
Percentage						
Males	10.4	8.0	14.0	10.7	4.4	47.5
Females	9.4	7.8	15.2	13.4	6.7	52.5
Total	19.8	15.8	29.2	24.1	11.1	100.0

Table 2. Population by sex, age and marital status, 1971

Sex	Age	Marital status					Total
		Single	Married	Widowed	Separated/ divorced	Not stated	
Males	<15	7754					7754
Females		6950	4				6954
Males	15–24	5652	308				5960
Females		4184	1508	12	40		5744
Males	25–44	3012	7248	20	116	4	10 400
Females		2116	8664	200	324	4	11 308
Males	45–64	528	7076	192	128	4	7928
Females		968	6784	1872	336	8	9968
Males	≥65	216	2596	416	28		3256
Females		320	1880	2732	54	4	4990
Males	Total	17 162	17 228	628	272	8	35 298
Females		14 538	18 840	4816	754	16	38 964

employment situation was very similar to that for the whole of the Greater Athens area. There are no heavy industries in the area, and the existing 5000 small- to middle-sized textile and handicraft industries take most of their work-force from within the area.

Population distribution and housing

The pilot study area is predominantly urban in character. The population density of 4312 inhabitants per km^2 is slightly lower than that of the Greater Athens area (5867 inhabitants per km^2) and much lower than in the city of Athens (22 231 inhabitants per km^2). Practically all dwellings have electricity, and two-thirds have bathroom and toilet facilities. More than 80 % have piped water. The majority of households have two to four members living in two- to four-roomed dwellings.

Main ethnic and religious groups

The population of the area is very homogeneous, both ethnically (Greek) and in respect of religion (Christian Orthodox), but a mixture of working class and middle class.

Indicators of social stability

The pilot study area is quite stable from the point of view of social pathology. According to local police records, the main problem in the area is theft (four per 1000 population in 1979), followed by assault (0.9 per 1000 population) and damage to property (0.3 per 1000 population). With a relatively low level of criminality and a fairly homogeneous population, it is surprising that the suicide rate for the area, although low (0.06 per 1000 population), is considerably higher than the average for the Greater Athens area (0.01 per 1000 population) and for Greece (0.02 per 1000 population).

Health and welfare system

Health services

The pilot study area is served medically mainly by the social insurance system (IKA) and other occupational insurance funds. These organizations are funded by both public and social security funds. Almost 90 % of the population is insured by the existing organizations but 10 % of the population is completely without insurance. The main problem is lack of collaboration between the various insurance funds—public as well as private—which creates unequal standards of service.

The existing health services in the area are as follows:

(1) The Byron polyclinic, which has paediatric, obstetric, ophthalmological, psychiatric and geriatric outpatient clinics. The psychiatric outpatient clinic employs one psychiatrist, paid by the Ministry of Social Services, who visits the area once a week.

(2) Two outpatient clinics funded by the IKA with four psychiatrists providing services on a daily basis.

(3) The Byron-Kessariani Community Mental Health Centre (CMHC), which is part of the Department of Psychiatry of Athens University Medical School, funded by both the university and the Ministry of Social Services. The CMHC employs four psychiatrists, one social worker, one visiting nurse and two social scientists (one

social anthropologist and one sociologist), the last two being engaged in research. The Centre serves the population of Byron and Kessariani exclusively.

None of these services offers inpatient care, and the area is served by hospitals located in the Greater Athens area. The only exception is the university psychiatric hospital (Eginition), located close to the pilot study area, which directly meets the needs of the area for inpatient care (90 beds) but also those of other parts of Athens and Greece.

There are no general practitioners in Greece, only specialists in private practice, of whom there are 138 in the pilot study area. A psychiatric social worker and 45 public health nurses also serve the area.

The general health situation

No morbidity data are available, but the mortality rate for the area was 11.9 deaths per 1000 population in 1979, which was higher than that for the Greater Athens area (8.6) and for Greece (9.1). This can be explained by the higher proportion of the population of the area aged 65 years or over. The five leading causes of death were practically the same for the area as for Greece, namely:

Pilot study area	*Greece*
1. Heart diseases	Heart diseases
2. Cerebrovascular diseases	Malignant tumours
3. Malignant tumours	Cerebrovascular diseases
4. Accidents	Respiratory diseases
5. Respiratory diseases	Accidents

Mental health services

Health services in Greece are provided by both state and private agencies and organizations (non-profit-making or otherwise).

The public sector includes two types of service: (1) ambulatory care, provided by outpatient clinics and certain health centres located mainly in the Greater Athens area; and (2) inpatient services, provided by hospitals and special institutions. None of the above-mentioned services operate on a catchment area basis, except for the IKA outpatient clinics.

The private sector includes hospitals and day centres, which operate either on a clear-cut, private basis and/or have contracts with the various insurance organizations or funds. The Ministry of Social Services supervises and controls the operation of these hospitals.

Health insurance in Greece covers the cost of hospitalization and outpatient care as well as that of medication. Only one of the insurance funds, namely IKA, operates as a health service in itself. The health insurance system can be divided up as follows:

(1) The National Crop and Social Insurance Agency, which covers farmers, fishermen and livestock breeders.

(2) IKA, which covers the working population not employed by state agencies or organizations. It provides care through a number of outpatient clinics operating on a catchment area basis and a certain number of hospitals not operating on this basis, and health benefits, covering the cost of hospitalization in private or state hospitals with which the IKA has signed special contracts.
(3) The Civil Servants Insurance Plan, which covers all state employees.
(4) Various other professional insurance funds (ten in number), which cover the cost of hospitalization in the public or private sector since they do not have their own health services.

A certain proportion of the population is not covered by any of the above-mentioned insurance funds. Some of them may be characterized by the welfare services as "impoverished", and are thus entitled to free medical care, while others pay their own medical expenses.

Existing facilities

As will be seen from the above, the population of the area has access to all the public and private mental health services of the Greater Athens area. All these services were visited and information is included on those with patients from the area.

The existing mental health services in the area are as follows.

(1) The Pangrati-Byron IKA outpatient clinic funded by the Social Insurance Organization, and operating on a catchment-area basis. It has 14 outpatient clinics, namely paediatric, medical, surgical, dermatological, orthopaedic, radiological, ophthalmological, urological, ear and throat, gynaecological, neuropsychiatric, cardiological, biochemical and dental. Its catchment area is not identical with the pilot study area. It consists of: (a) one central building located within the pilot study area serving the Kessariani population, most of the Byron population and a section of the Athens borough population (Pangrati neighbourhood); (b) two satellite clinics, one located in the northern part of Byron and serving the Byron area exclusively, and the other located outside the pilot study area and serving a section of the Athens borough population. The reason why the three clinics are not dealt with separately as individual functional units is that the IKA central outpatient clinic keeps a central register of all patients in the area that it serves.
(2) The Byron polyclinic (health centre) previously mentioned, with its paediatric, obstetric, ophthalmological, psychiatric and geriatric outpatient clinics. Its catchment area is greater than the Byron-Kessariani pilot study area, from which, however, most of its clients come because it is located in Byron.

The services located outside the pilot study area but serving its population are described below.

Public services

The Athens University psychiatric clinic, Eginition Hospital (100 beds), is the Athens University psychiatric department and is located 1 km outside the pilot study area. It serves mentally ill patients from all over Athens and Greece, whether covered by the major insurance funds or not. It is a teaching hospital, having inpatient open wards (two for males and two for females), an outpatient department with a 24-hour psychiatric emergency clinic, a day hospital and a community mental health centre serving the Byron-Kessariani area.

The state mental hospital of Athens (DAFNI) (2700 beds) is located 20 km west of the pilot study area. It consists of 25 buildings for the various departments, and accepts patients from all over Athens and Greece. The type of treatment is characterized as "class C", with a mean of 25 beds per ward.

The various functional units are differentiated according to the diagnostic category, the chronicity of the disease, and the legal status of the patient. There is a child psychiatric unit, an alcohol and drug abuse unit, and a special unit for mentally ill prisoners, together with six other adult psychiatric departments including two small sanatoria and a medicosurgical unit.

DAFNI has its own outpatient clinic, located in central Athens, providing services on a daily basis.

Private services

The private services consist of private mental hospitals serving patients insured mainly by the IKA, the Merchant Seamen's Fund (NAT) and other insurance funds for occupational groups. Some hospitals operate on a completely private basis. All are open daily to new patients, and those that have signed a contract with the IKA are on call on a 24-hour basis once every 15 days. Patients may be referred to a hospital by their insurance agency outpatient clinic, or by the 24-hour psychiatric emergency clinic operating in Eginition Hospital (and serving the Greater Athens area), or they can go by themselves or accompanied by a relative.

The hospitals offer treatment mainly to the adult psychiatric population, the techniques used varying from drugs and ECT to supportive psychotherapy, and very rarely insulin shock (used by two private hospitals). Hospitals provide different "classes" of care, and the types of treatment, number of patients per room as well as the visiting hours differ depending upon the "class" of hospital care that the patient can afford.

A total of 17 such hospitals had admitted patients from the pilot study area in 1979. They are situated 8–15 km from the area.

Patient census and cohort study

Patient census

Data on both inpatients and outpatients were obtained by visiting each mental health service within or outside the community. The year 1979 was defined as the "selection" year, and 15 June as the inpatient census date, while the period 1–15 June was defined as the outpatient census period. Information on patients from the pilot study area who might have been hospitalized or attended the services during the period November 1978 to December 1979 was accumulated. A comparison of all reported cases during this period from all the different mental health services was made in order to ensure that every outpatient was registered once and all the information was collated. In this way, a register was produced containing nearly all the psychiatric cases in the pilot study area who had attended or been hospitalized in any psychiatric service in the pilot area and the Greater Athens area during 1979. This was a major but necessary task in conducting the cohort study. The absence of a central register, even of patients insured by the same fund, together with the complexity of the system, may have caused a small loss of patients from both the census and the cohort.

In the pilot study area, 173 residents had been hospitalized at least once during 1979. On census day, 46 of them were in hospital (30 males and 16 females), their mean age being 48.2 years.

Most of the inpatients were insured (71.7%), 21.7% were not insured and characterized as "impoverished", while the remaining 6.5% paid their own fees.

In the pilot study area, the 450 residents who had visited outpatient services during the period 1–15 June 1979 comprised 151 males (34%) and 299 females (66%), with a mean age of 53.9 years. The vast majority (97%) had used the Pangrati-Byron outpatient clinic of the IKA located in the area.

Cohort study

The cohort consisted of 344 consecutive cases entering the services over the period 1 January to 24 December 1979 who were residents in the pilot study area. One of the private hospitals mentioned above refused to participate, but only a small number of patients will have been missed as a result.

As shown by Table C1 and Fig. C1, females constitute the largest proportion of the cohort (62%), and are more often married than the males; those aged 45 years or over are also more often widowed.

The majority of the patients diagnosed as schizophrenics are males aged 44 years or under (see Table C2). The largest diagnostic group is neurosis and personality disorders (65% of the cohort; 52% of the males and 74% of the females). The majority of the schizophrenic patients are single, while most of the neurotic, affective and alcoholic patients are married.

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 344) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		< 15	15–19	20–24	25–44	45–64	65–74	75–84	≥ 85	
Single	M	1.5	2.3	3.8	4.4	1.5	0.6	0.3		14.2
	F		1.5	1.2	4.9	2.3	0.9	0.3		11.0
Total		1.5	3.8	4.9	9.3	3.8	1.5	0.6		25.3
Married	M				7.6	7.8	3.5	0.6	0.3	19.8
	F		1.5	0.9	14.2	16.6	2.6	0.3	0.3	36.3
Total			1.5	0.9	21.8	24.4	6.1	0.9	0.6	56.1
Widowed	M							0.3	0.3	0.6
	F					4.1	1.7	2.6	0.3	8.7
Total						4.1	1.7	2.9	0.6	9.3
Divorced/ separated	M			0.3	0.9	1.2	0.6			2.9
	F				2.9	2.0	0.6			5.5
Total				0.3	3.8	3.2	1.2			8.4
Not known	M				0.3	0.6				0.9
	F									
Total					0.3	0.6				0.9
Total	M	1.5	2.3	4.1	13.1	11.0	4.7	1.2	0.6	38.4
	F		2.9	2.0	22.1	25.0	5.8	3.2	0.6	61.6
Grand total		1.5	5.2	6.1	35.2	36.0	10.5	4.4	1.2	100.0

Types of contact at first entry

Tables C3–C5 and Fig. C2 show that 86% of the cohort enter as outpatients. This is true for both sexes and for all marital status, the largest age-group being 25–64 years of age.

The large proportion of outpatients may be due to the absence of inpatient facilities in the area and/or to the social security system, which provides free medication, payment when patient goes for treatment, etc. A comparatively large number of patients (35) had an outpatient contact and were admitted on the same day.

Table C5 shows that the majority of patients in all diagnostic categories, with the exception of alcohol and drug dependence, enter as outpatients. On the other hand, the 17 schizophrenics who had an outpatient contact followed by admission can also be regarded as entering as inpatients.

Fig. C 1. Cohort by age, sex and marital status, in percentages of total cohort (N = 344)
(See also Table C 1)

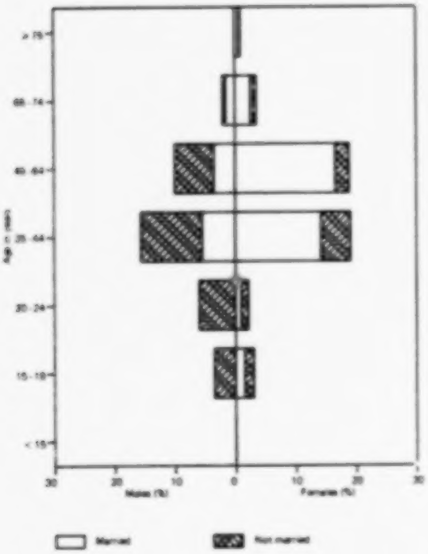


Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		< 25	25–44	45–64	≥ 65	
Organic psychoses	M	1	3	3	6	13
	F		1	2	7	10
Total		1	4	5	13	23
Schizophrenia and paranoid states	M	12	18	3		33
	F	3	12	4		19
Total		15	30	7		52
Affective psychoses	M		1	2		3
	F	1	9	8	3	21
Total		1	10	10	3	24
Other psychoses	M					
	F		1	1		2
Total			1	1		2

Table C2. (*Contd.*)

Diagnosis	Sex	Age in years				Total
		<25	25-44	45-64	≥65	
Neurosis and personality disorders	M	9	17	27	15	68
	F	11	51	71	23	156
Total		20	68	98	38	224
Alcohol and drug dependence	M	2	5	3		10
	F	1	1			2
Total		3	6	3		12
Mental retardation	M					
	F					
Total						
Other	M	3			1	4
	F	1	1			2
Total		4	1		1	6
No psychiatric diagnosis	M					
	F					
Total						
Not known	M		1			1
	F					
Total			1			1
Total	M	27	45	38	22	132
	F	17	76	86	33	212
Grand total		44	121	124	55	344

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	132	80.3	19.7
Females	212	89.2	10.8
Total	344	85.8	14.2

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	< 15	15-19	20-24	25-44	45-64	65-74	75-84	≥ 85	
Outpatient	5	14	16	98	113	32	13	4	295
Inpatient		4	5	23	11	4	2		49
Total	5	18	21	121	124	36	15	4	344

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	16	32	15	2	219	5		6		1	295
Inpatient	7	20	9		5	7					49
Total	23	52	24	2	224	12		6		1	344

[a] The following diagnostic groups have been used
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Types of contact during the first year

Table C6 shows that 28% of the cohort had one outpatient contact only and 73% only received outpatient care. Those diagnosed as psychotic or alcohol or drug dependents tended to use both inpatient and outpatient services.

Percentage of patients and types of contact during the follow-up episodes of care

Tables C7 and C8 and Fig. C3 show that 62% of the cohort received only short outpatient care (83% of those with neurosis and personality disorders) and that only 1.7% became chronic users (organic psychoses and schizophrenia).

After 18 months, 66% of the cohort were no longer in contact. However, 52% of those with psychoses were still in care, as compared with only 27% of those with neurosis and personality disorders.

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

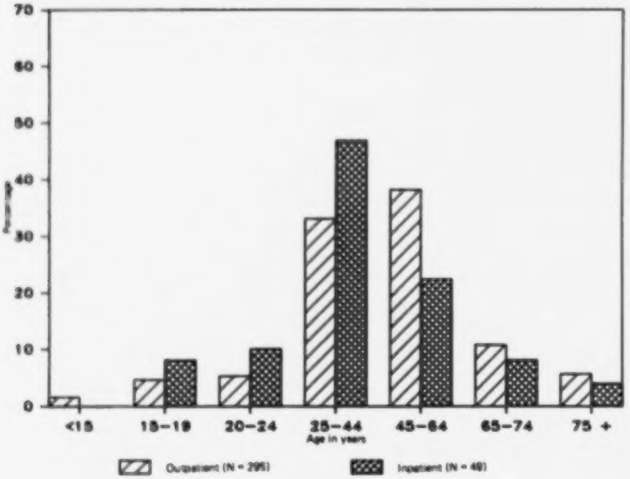


Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6	7	1–5	6–7	
Organic psychoses	9			17		39	34	26	74	23
Schizophrenia and paranoid states	8		4	10		33	46	21	79	52
Affective psychoses	4	4	4	20		29	38	33	67	24
Other psychoses				100				100	0	2
Neurosis and personality disorders	39	6	4	48		3		97	3	224
Alcohol and drug dependence	8	8				50	33	17	83	12
Mental retardation										
Other	33	17		33		17		83	17	6
No psychiatric diagnosis										
Not known						100				1
Total	28	5	3	36		14	13	73	27	344

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table C7. Percentages of patients with no more contacts after preselected moments during the two year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days*							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	9	13	13	13	22	26	48	23
Schizophrenia and paranoid states	13	19	25	29	31	33	48	52
Affective psychoses	4	12	17	17	17	17	48	24
Other psychoses	0	0	0	0	0	0	0	2
Neurosis and personality disorders	40	41	42	43	47	53	73	224
Alcohol and drug dependence	33	42	42	50	58	58	83	12
Mental retardation								
Other	0	17	17	33	33	50	83	6
No psychiatric diagnosis								
Not known								1
Total	31	33	35	37	41	45	66	344

* The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	17.4	8.7	17.4	26.1		4.3	21.7	4.3	23
Schizophrenia and paranoid states	17.3	1.9	9.6	44.2	3.8	21.2	1.9		52
Affective psychoses	25.0	12.5	12.5	37.5		8.3		4.2	24
Other psychoses	100.0								2
Neurosis and personality disorders	82.6	13.4	2.2	0.4		1.3			224
Alcohol and drug dependence	8.3		41.7	50.0					12
Mental retardation									
Other	83.3			16.7					6
No psychiatric diagnosis									
Not known			100.0					1	
Total	61.6	10.5	6.7	13.4	0.6	4.9	1.7	0.6	344

* Episodes of care:
1 = outpatient, short
2 = outpatient, medium or long but not chronic
3 = inpatient, short
4 = inpatient, medium or long but not chronic
5 = mixed type of care, short
6 = mixed type of care, medium or long but not chronic
7 = chronic
8 = not classified elsewhere

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

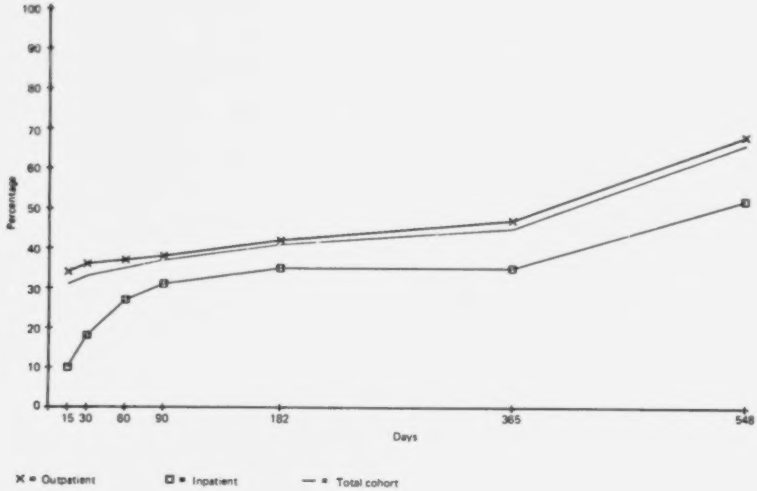


Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1+2	Outpatient	Day patient	Beds
0–15	258	50	36	44.0		20.5
16–30	35	57	5	6.1		15.1
31–60	61	42	6	5.8		9.3
61–90	63	25	6	5.4	0.1	6.4
91–182	115	23	12	5.5	0.0	4.5
183–365	126	17	10	4.1		3.8
366–548	130	20	14	4.2	0.1	4.2
549–730	91	15	12	3.4	0.0	3.1
First year	251	29	64	6.4	0.0	5.8
Second year	146	22	20	3.8	0.1	3.6
First and second year	247	26	71	5.1	0.0	4.7

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Caseload features

The sharp drop in outpatients after the first two weeks included those who had an outpatient contact as a supplementary examination. Throughout the remainder of the two-year follow-up period, there was only a slight decrease in contacts per week per 100 patients. With regard to the number of beds occupied per week per 100 patients, there was, apart from a small increase between 12 and 18 months, a steady decrease after the first month.

Night places are not available and day care is available only at the Athens University psychiatric clinic, which caters for three million people, so that there is little opportunity for patients from the pilot study area to receive this type of care.

Dublin, Ireland

The pilot study area

General and geographical information

The St Loman's pilot study area comprises part of the south-west of the city of Dublin and the adjoining south-west of the county of Dublin. The total population of the area was 220437 at the 1979 population census.

If the main Galway Road from the city is followed, the St Loman's catchment area is entered at the old town of Chapelizod, which is mainly composed of working-class and artisan housing and dates from well before the turn of the century with little modern building. About 2 km further on, Palmerstown is reached; this was originally a rural village but is now engulfed by a spreading development of small, private housing estates. For the most part, the houses are modest and of the terraced type. Here and there are some isolated larger dwellings, some in their own grounds.

Past St Loman's Hospital, situated about 11 km west of Dublin city, and 3 km further on, is the town of Lucan, which again was originally a pleasant rural village but has now also expanded with a small development of county council housing and a number of private housing developments. Open land intervenes southwards between St Loman's and Clondalkin, which was a small rural village some 50 years ago but is now surrounded by a fair amount of private housing. Southwards again, 10 years ago, would have been the villages of Templeogue and Tallaght, both of them lying in open countryside. Now, however, the Templeogue-Tallaght Road has been spoiled by a ribbon development of local authority housing of low aesthetic appeal and, southwards from this ribbon, similar local authority housing has begun to fill in the gaps between the Templeogue-Tallaght Road and the mountains. Interspersed with this local authority development are numerous private developments. The road from Tallaght to Clondalkin is now the scene of industrial development.

About 2½ km from St Loman's in a south-easterly direction lies Ballyfermot. This was open farmland at the end of the Second World War when the Dublin Corporation began the construction of a corporation housing estate. Most of the houses were completed by the late 1950s and recently married couples who, after marriage, had been living in central Dublin, were moved out to the Ballyfermot estate at this time. Most of the houses are two- or three-bedroomed, terraced and with a total area of some 112 m². The first consideration in the Corporation's mind was to provide housing quickly to cater for a postwar marriage and baby boom, and as a result schools, shops and other services took second place. Thus for many years after the establishment of the estate, there were no adequate schooling facilities, so that children from it were obliged to travel every day on special buses to central city schools. In fact, supermarkets, shops, banks and, indeed, a garda (police) station were only finally built in Ballyfermot in the early 1970s. The population of Ballyfermot was 31 230 at the 1979 census.

A further 3 km on is another large housing estate, Crumlin, with adjoining smaller estates in Drimnagh and Walkinstown. The older parts of Crumlin were built between the two world wars and the same is true of Drimnagh. More recent parts date from after the Second World War and most of Walkinstown is a post-Second World War development. The general characteristics of these areas are similar to those of Ballyfermot, and the total population of the Crumlin/Drimnagh/Walkinstown complex, which consists almost entirely of local authority housing, amounts to approximately 35 000. These sprawling housing estates lack a defined centre and therefore have only a limited sense of community. Nevertheless, a community has developed around parishes, particularly in the more settled parts of Crumlin.

Sociodemographic profile

Population by sex, age and marital status

Tables 1 and 2 give the distribution by sex, age and marital status of the St Loman's pilot area population according to the 1979 national census of population. There is no legal category of divorce in Ireland.

Table 1. Population by sex and age, absolute and as a percentage of total population

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Absolute						
Males	36 679	20 994	30 180	15 608	5 633	109 094
Females	34 794	20 843	30 028	17 369	8 309	111 343
Total	71 473	41 837	60 208	32 977	13 942	220 437
Percentage						
Males	15.8	9.5	13.6	7.9	3.8	50.5
Females	16.6	9.5	13.7	7.1	2.6	49.5
Total	32.4	19.0	27.3	15.0	6.3	100.0

Table 2. Population by sex, age and marital status, in percentage of total in each sex/age category, 1979

Sex	Age	Marital status				Total
		Single	Married	Widowed	Divorced	
Males	<15	100.0				100.0
Females		100.0				100.0
Males	15–24	88.7	11.3			100.0
Females		79.9	20.1	0.1		100.0
Males	25–44	19.0	80.7	0.2		100.0
Females		15.4	83.7	0.9		100.0
Males	45–64	10.8	85.7	3.5		100.0
Females		12.5	73.4	14.2		100.0
Males	≥65	10.2	69.4	20.5		100.0
Females		15.4	32.3	52.4		100.0
Males	Total	58.0	40.3	1.6		100.0
Females		53.5	40.2	6.4		100.0

The tables show a nearly equal distribution between the sexes with 50.5% males and 49.5% females, while 32% of the population is 14 years or less, over half of the population (51.4%) is 25 years or less, and only 6.3% is 65 years or over. For the 65 years or over age-group, 69.4% of the males were married and 20.5% widowed; for the females in this age-group the corresponding figures were 32.3% and 52.4% respectively.

Employment and main economic activities

Of the male population aged 14 years or over, according to the census data of 1971, 82.7% were gainfully occupied, 10% at school, 0.1% at home and 7.2% not gainfully occupied. For females in the same age-group, the corresponding figures were 33.4%, 7.1%, 57% and 2.4%, respectively.

Apart from population censuses, data on those unemployed are available from labour exchanges throughout the country. Unfortunately, as far as Dublin is concerned, these data are not available on a regional basis and so cannot be supplied separately for the pilot study area population. However, at the time of writing, the unemployment rate is running at around 12% and therefore considerably higher than in 1971. Of the employed population, the greater part (approximately 55%) are in industrial employment, the remaining 45% being in lower- or middle-grade white collar employment, the majority in the public sector.

In the industrial sector, there is a great variety of industries with no single large concern predominating.

Population distribution and housing

This matter has already been dealt with above, but it is worth recalling that over 90% of the population live in the urban parts of south-west Dublin city and south-west Dublin county. The remaining 10%, possibly less since 1979 because of increasing urban development, live in rural surroundings in county Dublin, "rural" in this sense meaning that there is no other dwelling within 100 metres. A great proportion of the study population live in new housing estates, of which approximately half is municipal housing and the remainder privately owned. All of these houses have electricity, inside running water and flush lavatories. In total, according to the 1971 census, there were 34 832 permanent housing units, of which 99.2% had a water tap inside, connected to the public mains, while 0.8% were connected to a private source. The average number of persons per permanent private household was 4.55 and per room 0.97.

Main ethnic and religious groups

The pilot area population, like the country as a whole, is 95% Roman Catholic, with the great majority of the remainder being Protestants of one kind or another, namely Church of Ireland, Presbyterian, Methodist, etc.

There are no significant ethnic minorities within the area. A certain unquantified proportion of the population would have been born in other parts of Ireland but migrated to Dublin in early life.

Indicators of social stability

Unfortunately, no mortality or morbidity data relating to the pilot study area exclusively are available. However, data for suicide and murder are available for Dublin city and county and can be contrasted with those for the country as a whole. In 1978, there were 15 homicides (4 per 100 000 population) and 163 suicides (4.7 per 100 000) in Ireland. The corresponding figures for Dublin were 5 (9 per 100 000) and 56 (6.1 per 100 000).

Health and welfare system

Health services

At the primary health care level, general practitioner services are available free of charge at the various health centres and dispensaries within the area to people insured under the Health Acts (blue card holders); these comprise approximately 25–30% of the population. For the remainder, such services are available from private general practitioners.

In total, 42 general practitioners, or 0.25 per 1000 population, serve the pilot study area.

There are 200 beds (0.75 per 1000 population) in a general hospital, 170 (0.7 per 1000 population) in a psychiatric hospital, and 100 (0.45 per 1000 population) in institutions for the mentally retarded, and outpatient clinics with 1800 consultations per year. The general hospital traditionally serving the area is Dr Steeven's Hospital, which lies just outside the eastern periphery of the area but is connected to it by bus services from Ballyfermot, Palmerstown, Chapelizod and Lucan. For Crumlin, Walkinstown and Drimnagh, the main general hospital is the Meath Hospital. However, many patients living in the area go to other general hospitals throughout the city and it is commonplace to find patients attending hospitals far removed from their place of residence. The Coombe Hospital to the east of the catchment area, but within easy access of most of it, provides the main maternity services; Our Lady's Children's Hospital in Crumlin provides most of the inpatient and outpatient facilities for paediatrics, and a fever hospital, Cherry Orchard, is situated at one end of Ballyfermot.

Welfare system

Social services are, as usual in Ireland, supplied on both a voluntary and a statutory basis. The two general hospitals, the children's hospital and the maternity hospital all have fully trained medical social workers. In the community, there are a number of social service councils providing voluntary services, most of them having fully trained social workers, and there are also local authority social workers in the health centres throughout the area. In total, there are two psychiatric social workers (0.012 per 100 population) and 10 public health nurses (0.06 per 100 population) in the pilot area.

The general health situation

For Ireland as a whole, the total number of births during 1978 was 70 299. The birth rate was 21.2 per 1000 population. The total number of illegitimate births was 3003, i.e. 4.3% of total births.

In 1978, the number of deaths was 33 794, giving a death rate of 10.2 per 1000 population; 1046 infants under one year of age died, i.e. 14.9 per 1000 live births. During 1978, 32.4% of all deaths were due to ischaemic and other forms of heart disease, 17.9% to diseases of the circulatory system, 18.4% to cancer, and 13% to respiratory diseases.

The total number of deaths in Dublin for 1978 was 7697, made up as follows:

	No.	%
Ischaemic heart disease	1945	25.3
Malignancies	1669	21.7
Respiratory diseases	1181	15.3
Cerebrovascular disease	764	9.9
Other disease of the circulatory system	243	3.2

Mental health services

Existing facilities

The St Loman's service comprises the following:

—a 170 bed hospital (not covered by the case register), which serves a wider catchment area than the St Loman's service;

—two day centres with 30 places each; one was opened in 1968 and is located in Crumlin, the other is on a floor of a new building in Ushers' Island, which was given to the St Loman's service in 1975;

—in addition, some 40–50 day places are available in the hospital itself, to which patients can come either independently or by hospital minibus; 20 places function as day hospital places;

The following hostels are also available:
(a) a hostel, opened in 1965, and located in the building of St Mary's Hospital in Chapelizod; it consists of four flats providing 16 places;
(b) Killinarden, the former St Loman's superintendent's residence, which has been functioning as a hostel for the past two years and provides accommodation for six patients;
(c) the St Loman's secretary's residence, which has also been converted to hostel usage and provides a further four places;
(d) five group homes of five places, as in the pilot area, which are ordinary council houses in housing estates;

Outpatient clinics (15 services at 10 different locations) are operated, with six separate clinic sessions per week.

Despite all these facilities, the feeling is unanimous that there is an acute need for further day places and hostel accommodation to relieve the demand for inpatient accommodation and to enable suitable patients to be discharged. This demand has grown steadily over the years.

The staffing of the St Loman's service is shown in Table 3. In addition to the above, St Patrick's Hospital (psychiatric service) and St James Hospital (a general hospital with a psychiatric service), both located outside the pilot area, also provide services to inhabitants of the area.

Patient census and cohort study

Patient census

The census included 290 inpatients of the St Loman's service, the sex, age and marital status of these patients being shown in Table 4. There is a nearly equal distribution between the sexes, 49.3% being males and 50.7% females. Most patients were aged 25–65 years (6.6% were younger and 15.2% 65 years or over) while 63% were single, and only 25.2% married. Half the patients (51.4%) lived with their parental family and 28.3% with their nuclear family before admission, 13.4% lived alone and another 6.9% in institutions, hostels, etc.

Table 3. Staffing of St Loman's service

Type of staff	Hours per week for full-time equivalent	Number
Professional health staff		
Psychiatrists	48	7
Non-psychiatric physicians	48	6
Qualified nurses	46	60
Clinical psychologists	40	—
Other psychologists	—	—
Psychiatric social workers	42	2
Other social workers	—	—
Other mental health professionals	42	6
Other health professionals	42	4
Other health staff		
Assistant nurses	42	20
Unqualified health personnel	—	—
Non-patient care staff		
Administrative and clerical	40	6
Housekeeping	42	15
Total all staff	432	126

Table 4. Census population by sex, age and marital status in percentages of total census (N = 290)

Marital status	Sex	Age in years				Total
		15–24	25–44	45–64	65–84	
Single	M	3.1	18.6	13.4	1.7	36.9
	F	3.1	12.4	7.6	2.8	25.9
Total		6.2	31.0	21.0	4.5	62.8
Married	M		1.0	5.5	2.1	8.6
	F	0.3	5.9	8.3	2.1	16.6
Total		0.3	6.9	13.8	4.1	25.2
Widowed	M			0.3	2.4	2.8
	F			3.1	3.8	6.9
Total				3.4	6.2	9.7
Other[a] unknown	M		0.7	0.3		1.0
	F		1.0		0.3	1.3
Total			1.7	0.3	0.3	2.3
Total	M	3.1	20.3	19.7	6.2	49.3
	F	3.4	19.3	19.0	9.0	50.7
Grand total		6.6	39.7	38.6	15.2	100.0

[a] Including two males aged 25–44 years, three females in the same age-group and one female aged 65–74 years who were separated/divorced and one male aged 45–64 years whose marital status was unknown.

Table 5 shows that more than half the patients had been in hospital for more than five years on the census day, and 40.7% for more than 11 years. The commonest diagnosis was schizophrenia and paranoid states, with 107 patients or 36.9%, followed by 44 or 15.2% with affective psychoses, 41 or 14.1% with "other diagnoses", 38 or 13.1% with neuroses and personality disorders, and 32 or 11% with organic psychoses. Schizophrenia and paranoid states were more common among males (44.1%) than females (29.9%) and affective psychoses as compared to neuroses and personality disorders more common among females (19.0 compared to 16.3%) than males (11.2 compared to 9.3%). Of the single patients, 46.7% had been in hospital for 12 years or more as compared with 30.1% of the married and 21.4% of the widowed patients.

In the census of inpatients, two patients per 1000 of the population aged 15 years or over were counted. Compared with the population aged 15 years or over, single persons (3.54 per 1000 single people in the population), the widowed (3.26 per 1000 widowed in the population) and older persons (45–64 years: 3.39 per 1000 population; 65 years or over: 3.16 per 1000 elderly) were more often present in the census population than other groups.

Description of cohort

A total of 234 patients aged 15 years or over were included in the cohort between 12 February and 8 July 1980 and followed up for a period of two years through the St Loman's psychiatric case register. This gives a figure of 3.9 new patients per 1000 of the population aged 15 years or over annually. Tables C1 and C2 and Fig. C1 contain data on the age, sex and diagnosis of the cohort. They show, like the census, a nearly equal distribution between the sexes. In age, the cohort differs from the census, since it contains more younger people: 74.4% are aged 44 years or younger as compared with 46.3% of the (in)patients in the census. The diagnostic distribution is very different, the commonest diagnosis being neuroses and personality disorders with 114 or 48.7%, followed by alcohol and drug dependence with 33 or 14.1%, 31 or 13.2% with schizophrenia and paranoid states, and 26 or 11.1% with affective psychoses.

Type of contact at first entry

Tables C3–C5 and Fig. C2 show that 69.7% of the cohort entered as outpatients. As mentioned above, the differences between the census (in)patients and the cohort (mainly outpatients) therefore have to be explained largely by this difference in type of service. Of patients aged 65 years or over, more entered the cohort through inpatient services than of the younger patients, which is also reflected in a higher percentage of inpatient care at entry for organic psychoses than for

Table 5. Census population by diagnostic group and length of stay

Diagnosis	Length of stay in years					
	<1	1-5	6-11	≥12	Unknown	Total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Organic psychoses	7 (10.3)	9 (13.4)	5 (14.3)	11 (9.3)	— (—)	32 (11.0)
Schizophrenia and paranoid states	23 (33.8)	25 (37.3)	10 (28.6)	49 (41.5)	2 (100.0)	107 (36.9)
Affective psychoses	11 (16.2)	14 (20.9)	5 (14.3)	12 (10.2)	— (—)	44 (15.2)
Other psychoses	— (—)	2 (3.0)	— (—)	3 (2.5)	— (—)	5 (1.7)
Neurosis and personality disorders	13 (19.1)	8 (11.9)	6 (17.1)	11 (9.3)	— (—)	38 (13.1)
Alcohol and drug dependence	9 (13.2)	4 (6.0)	6 (17.1)	4 (2.4)	— (—)	23 (7.9)
Other	5 (7.4)	5 (7.5)	3 (8.6)	28 (23.7)	— (—)	41 (14.1)
Total	68 (100.0)	67 (100.0)	35 (100.0)	118 (100.0)	2 (100.0)	290 (100.0)
Percentage	23.4	23.1	12.1	40.7	0.7	100.0

Table C1. Cohort by sex, age and marital status,* in percentages of total cohort (N = 234) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15-19	20-24	25-44	45-64	65-74	75-84	≥85	
Single	M									
	F									
Total										
Married	M									
	F									
Total										
Widowed	M									
	F									
Total										
Divorced/ separated	M									
	F									
Total										
Not known	M									
	F									
Total										
Total	M		3.8	7.7	26.9	7.3	1.3	0.9		47.9
	F		3.8	8.1	23.9	12.4	3.8			52.1
Grand total			7.7	15.8	50.9	19.7	5.1	0.9		100.0

* Information on sex and age available only.

other diagnostic groups. Of patients with alcohol or drug dependence, almost half were admitted to hospital at entry to the cohort.

Type of contact during the first year

Table C6 shows that the percentage of inpatients at entry to the cohort (30.3%) increased to 39% during the first year in the psychiatric services. Apart from patients with neuroses and personality disorder or no psychiatric diagnosis, half or more of the patients received inpatient care. The other half, except for one patient with schizophrenia, one with affective psychoses and five with neurosis, received one outpatient contact only.

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M				3	3
	F	2	4	2	2	10
Total		2	4	2	5	13
Schizophrenia and paranoid states	M	4	9		1	14
	F	2	10	4	1	17
Total		6	19	4	2	31
Affective psychoses	M	3	3	4		10
	F	1	7	6	2	16
Total		4	10	10	2	26
Other psychoses	M		3	1		4
	F	2	2	1		5
Total		2	5	2		9
Neurosis and personality disorders	M	15	25	7		47
	F	19	31	14	3	67
Total		34	56	21	3	114
Alcohol and drug dependence	M	3	19	5	1	28
	F	1	2	2		5
Total		4	21	7	1	33
Mental retardation	M					
	F	1				1
Total		1				1
Other	M					
	F					
Total						
No psychiatric diagnosis	F	2	4			6
	F				1	1
Total		2	4		1	7
Total	M	27	63	17	5	112
	F	28	56	29	9	122
Grand total		55	119	46	14	234

Fig. C1. Cohort by age and sex,
in percentages of total cohort (N = 234)
(See also Table C1)

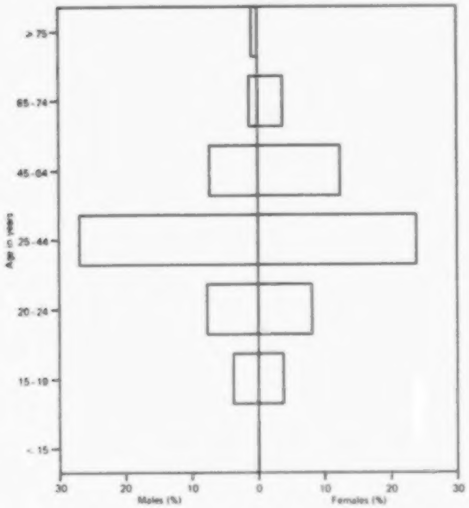


Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	112	67.9	31.2
Females	122	71.3	28.7
Total	234	69.7	30.3

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	< 15	15-19	20-24	25-44	45-64	65-74	75-84	≥ 85	
Outpatient		14	26	86	32	5			163
Inpatient		4	11	33	14	7	2		71
Total		18	37	119	46	12	2		234

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis*										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	4	19	17	8	90	17	1		7		163
Inpatient	9	12	9	1	24	16					71
Total	13	31	26	9	114	33	1		7		234

* The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

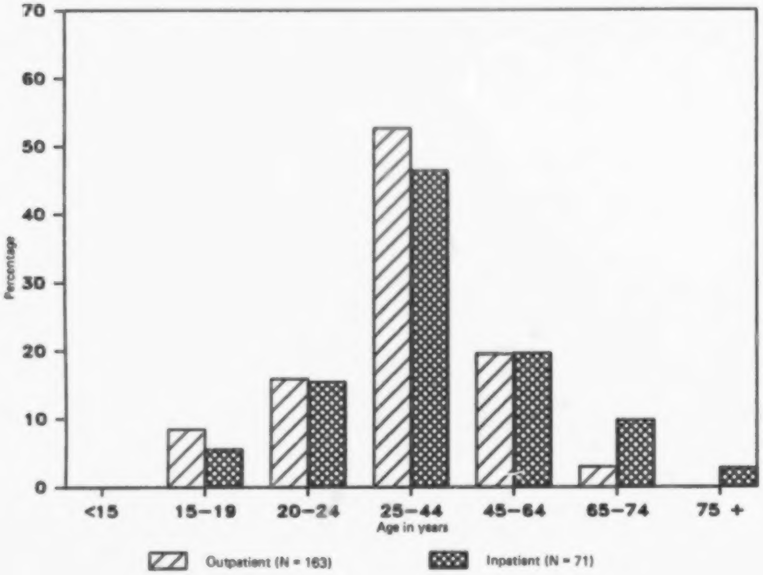


Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6	7	1–5	6–7	
Organic psychoses	23					69	8	23	77	13
Schizophrenia and paranoid states	48	3				42	6	52	48	31
Affective psychoses	46			4		38	12	50	50	26
Other psychoses	89					11		89	11	9
Neurosis and personality disorders	67			4		27	2	71	29	114
Alcohol and drug dependence	39					55	3	39	58	33
Mental retardation	100							100	0	1
Other										
No psychiatric diagnosis	86						14	86	14	7
Total	57	0		3		35	4	61	39	234

[a] Types of contact:

1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after. . .days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	38	54	77	77	77	85	92	13
Schizophrenia and paranoid states	52	55	61	65	77	81	94	31
Affective psychoses	62	62	69	69	77	92	100	26
Other psychoses	89	89	89	89	89	89	100	9
Neurosis and personality disorders	75	79	84	84	87	92	98[b]	114
Alcohol and drug dependence	61	67	70	70	79	85	91	33
Mental retardation	100	100	100	100	100	100	100	1
Other								
No psychiatric diagnosis	86	86	86	86	86	100	100	7
Not known								
Total	67	71	77	78	83	89	97[b]	234[b]

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

[b] Contact status of one patient after two years unknown.

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that 83% of the cohort had left the services within six months: 70% not only of the outpatients after their first contact, but also of the inpatients, had left the services after six months following entry to the cohort. Chronicity is therefore a very relative term but, if it is used, it applies mainly to the organic psychoses, schizophrenia and paranoid states, and alcohol or drug dependence.

Table C8. Episodes of care during the two-year follow-up period by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	23.1		23.1	30.8			23.1		13
Schizophrenia and paranoid states	51.6		6.5	32.3			9.7		31
Affective psychoses	50.0		23.1	23.1	3.8				26
Other psychoses	88.9			11.1					9
Neurosis and personality disorders	71.1		14.9	9.6	2.6		1.8		114
Alcohol and drug dependence	39.4		27.3	18.2	6.1		6.1		33[b]
Mental retardation	100.0								1
Other									
No psychiatric diagnosis	85.7			14.3					7
Total	60.3		15.8	16.7	2.6		4.3		234[b]

[a] Episodes of care:

1 = **Outpatient, short**
One outpatient contact; *or*
one or more short outpatient "episodes", with less than six contacts each.

2 = **Outpatient, medium or long but not chronic**
No patient.

3 = **Inpatient, short**
One "stay" in hospital, of less than 21 days.

4 = **Inpatient, medium or long but not chronic**
One stay in hospital, of between 21 and 350 days; *or*
several stays in hospital, each of less than 100 days. No more than 300 days without care. Some isolated outpatient contacts.

5 = **Mixed types of care, short**
One or two outpatient contacts followed by one short stay in hospital, sometimes of more than 100 days after the first contact.

6 = **Mixed types of care, medium or long but not chronic**
No patient.

7 = **Chronic**
One or more stays in hospital. The total care duration is more than one year.

8 = **Not classified elsewhere**
No patient.

[b] Contact status of one patient after two years unknown.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

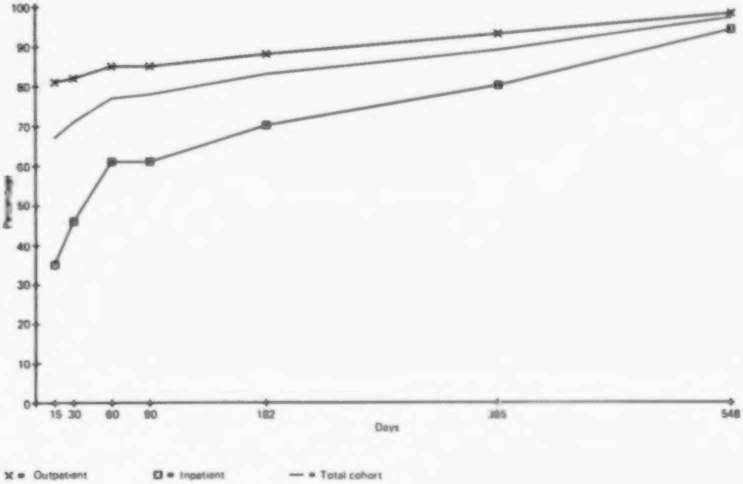


Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients	
	1	2	1 + 2	Outpatient	Beds
0–15	152	68	13	33.2	25.7
16–30	5	45	2	1.4	15.7
31–60	4	24	12	1.6	10.0
61–90	1	21	1	0.2	7.2
91–182	5	25	5	0.4	6.1
183–365	7	22		0.1	4.8
366–548	2	20	2	0.1	4.3
549–730		7		0.0	2.7
First Year	141	42	50	1.7	7.0
Second year	2	20	2	0.0	3.5
First and second year	138	42	53	0.9	5.3

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or inpatient care; 1 + 2 = mixed care.

Caseload features

Table C9 shows clearly, in line with the foregoing, that the heaviest burden falls on the services in the first two weeks. Very few patients have outpatient contacts afterwards, while the number of occupied beds per week per 100 patients after two months dropped from 25.7 in the first two weeks to 7.2, to decline steadily during the rest of the follow-up period.

Trieste, Italy

The pilot study area

General and geographical information

The pilot area of Trieste covers the same area as the province of that name (211.3 km^2) and had 280 385 inhabitants in 1982. The population density is 1327 per km^2. It comprises the city itself with 253 098 inhabitants and a population density of 3215 per km^2 and the surrounding small municipalities (27 287 inhabitants).

Two main factors have affected the economy, culture and social life of this area, the first being the geographical location. Since the end of the Second World War, Trieste has been on the frontier with Yugoslavia, which cuts through a very mixed area in which a number of different national groups live together. Thus, Trieste contains a large number of Slovenes, while in the surrounding region of Istria, which is now part of Yugoslavia, there is a large Italian-speaking group.

The second factor is connected with the history of the city. During the Hapsburg Empire, Trieste was a wealthy city and a flourishing port, outstanding both commercially and culturally. Both wealth and incomes began to decrease, however, after it came under Italian rule following the First World War and Fascism gave rise to ethnic conflicts.

From 1948 to 1954, when Trieste was administered by the Allied Military Government and the problem of the frontier was being discussed at the international level, immigrants flooded in from Istria. At least 200 000 are estimated to have entered the city during that period. Most of them were destitute, having left all their belongings behind in what is now Yugoslavia.

A kind of emergency welfare service had to be established to deal with these problems; many of these people emigrated to other Italian regions, as well as to America and Australia in subsequent years. About 60 000 immigrants, however, remained in Trieste.

When this social earthquake was over, it left a shocked and divided city, declining in wealth owing to the decline in the importance of the port and with an increasing need for welfare services, which did what they could to overcome economic and social crisis but failed in the attempt.

Sociodemographic profile

Population

From the demographic point of view, the population of Trieste is characterized (see Tables 1 and 2) by three factors which are peculiar to it and make it different from the rest of the region of Friuli-Venezia Giulia, as well as from the rest of Italy:

(*a*) a negative birth rate, as measured on a number of occasions since the 1961 census;
(*b*) a steady rate of decrease of the total population of 1% since 1976;
(*c*) the large proportion of elderly people (over 65 years of age) who, in 1983, constituted 21% of the population compared with the national average of 14%. The biggest group in the entire population, and particularly in this elderly population, consists of single women.

Employment and main economic activities

At the time of writing (April 1983), about 88 000 people are employed in Trieste (see Table 3) and more than 110 000 people are retired. Most of those in employment work in the "tertiary" sector, i.e. commerce, commodities, insurance, banking. Industrial employment is steadily decreasing owing both to the decline in the activities connected with the port, a decline that has been going on for the last 20 years, and to the crisis that Italian industry as a whole has been going through in recent years. From 1971 to 1976, the number employed in industry decreased from 41 260 to 36 192 or 12.3%.

Over the last 10 years, Trieste developed a flourishing trade in casual clothing, such as jeans, which were sold to the thousands of people who crossed over from Yugoslavia every day to buy goods not available in their own country. This trade, not fully reflected in the official economic statistics, boomed for a time but stopped suddenly two years ago when a financial crisis in Yugoslavia led to the closing of the frontier.

In the mean time, a crisis developed in the labour market and many people, mostly women, became unemployed. However, this situation has become a common one since the second half of the 1970s and is less important in Trieste than in the rest of Italy.

The reason for this paradox is to be found in the sharp decline in employment that occurred during the 1960s; since then, employment has steadily decreased.

Population distribution and housing

Trieste city has a population of 253 098, which gives a population density of 3215/km² compared to a population density of 1327/km² for the province as a whole.

The decrease in population (Table 2) has left many houses empty, and these are now unlet. The official figure shows 27 860 empty rooms,

Table 1. Population of the city of Trieste by sex, age and marital status, 1983

Age group	Males					Females					Males and females
	Single	Married	Widowed	Other	Total	Single	Married	Widowed	Other	Total	
0–14	16 689	—	—	—	16 689	15 780	—	—	—	15 780	32 469
15–24	15 398	636	—	—	16 034	12 499	2 306	7	1	14 813	30 847
25–44	8 422	23 334	88	355	32 199	4 564	26 761	502	639	32 466	64 665
45–64	3 092	27 562	811	614	32 079	3 946	27 377	6 095	991	38 409	70 488
65–74	1 076	10 046	1 327	192	12 641	2 353	7 562	8 757	331	19 003	31 644
≥75	493	4 669	1 927	61	7 150	2 408	2 563	10 751	113	15 835	22 985
All ages	45 170	66 247	4 153	1 222	116 792	41 550	66 569	26 112	2 075	136 306	253 098

Source: Trieste City Council

Table 2. Population changes, 1961–1982 (Province of Trieste)

Year	Natural shift	Migratory shift	Increase or decrease	Total population
1951	– 454	+ 7054	+ 300	300 442
1965	– 195	+ 464	+ 269	307 446
1968	– 1449	+ 633	– 816	307 028
1973	– 1118	+ 1715	+ 594	301 984
1976	– 2296	+ 215	– 2081	298 728
1979	– 2724	+ 243	– 2481	291 581
1982	– 2859	+ 194	– 2665	280 385

Source: National Institute of Statistics.

Table 3. Employment in Trieste, June 1983

Sector	Males	Females	Adolescents	Total
Commerce	7 142	10 058	748	17 948
Agriculture	43	31	3	77
Banking and insurance	3 024	1 110	1	4 135
Industry	26 081	4 993	354	31 428
Sailors	1 104	263	1	1 368
Public employment	17 681	10 689	—	28 370
Craftsmen	3 109	974	790	4 873
Total	58 184	28 118	1 297	88 199

whereas the Tenants Association's estimate is over 50 000. It is, nevertheless, not easy to find a home and to be able to afford it.

Many of the elderly live in the old city centre, in poorly furnished homes at low rents. Surprisingly, the public institutions (city council, welfare agencies) own a large amount of property which is either not rented or is rented at a price which only the affluent can afford.

The number of elderly people living alone is quite high, and this is a further risk factor even if the home is well furnished and in good hygienic condition, because there are neither the social ties nor the cultural network that could make life enjoyable.

Young people also face the same problems, as social facilities for them are also lacking.

Main ethnic and religious groups

An unusual feature of Trieste is that there are a number of religious communities, the most important of which being the Catholics, Jews and Protestants.

The social texture of the city is very complex. The main national minority group is formed by Slovenes, who have lived in the area for many centuries. The Italian population is also quite mixed, as immigrants from Istria, Friuli and southern Italy have joined the original inhabitants of Trieste. The groups have not become fully integrated and practise a form of tolerance while avoiding relationships with each other.

They can be identified by the geographical areas which they occupy. For example, the immigrants from Istria live mainly in two settlements built specially for them, whereas the Slovenes live in small rural villages around the town, and the original inhabitants of Trieste live in the centre of the city and in the suburbs.

Relations within the groups themselves have become quite difficult, because their cultural life has suffered from the effects of urbanization.

Indicators of social stability

In 1982, 2239 people were sent to the city prison, 348 of whom were Trieste residents. Of these, 62% were less than 30 years old and 37% between 18 and 24 years; almost half of them (47%) were recidivists; 42% had completed primary school, 23% had no regular jobs, 37% had no income; 97% were men.

There are no data from national or regional surveys whereby the relationship between the population and those sent to prison can be assessed. Nevertheless, it cannot be said that Trieste is characterized by a particularly high crime rate.

The high proportion of young people among those arrested, which is higher than the national average (54%), should be pointed out. This figure is even more striking when it is considered that the percentage of young people in the population is lower in Trieste than in the rest of Italy.

The higher incidence of rape in Trieste (3.9 per 100 000 population) as compared with the national average (1.9 per 100 000 population) is to be ascribed to a greater willingness on the part of women to report such cases to the police. Furthermore, 1976 was characterized by a strong campaign by women against sexual violence.

The suicide rate is of particular interest. This is a phenomenon dating back to the beginning of the century and is deeply rooted in the culture of this area. It has remained at the same level for the last 15 years. In 1978, the figure for Trieste was 12.5 per 100 000 population as compared to 8.7 for the province of Friuli-Venezia Giulia and 4.7 for Italy as a whole.

Health and welfare system

Health services

The health services in Trieste are characterized by the following features:

(*a*) a large number of beds (10 per 10 000 population) grouped in five major hospitals;

(*b*) a lack of community services;
(*c*) the important place occupied by diseases of the elderly.

The health services are highly centralized. The general hospital takes patients from and returns them to the different departments and hospitals. The number of patients seen in the casualty ward of the general hospital was 80 425 in 1979.

The general hospital is a large building in the centre of the city, dating back to the Hapsburg Empire. It is overcrowded, with poor hygienic conditions, and beds often have to be put in corridors.

A new hospital with 800 beds has been built on the outskirts of the city and was completed in 1978. It is well equipped and would enable part of the old general hospital to be closed, but is not yet in operation. Its opening has been delayed by disagreements as to rationalization of the existing health system.

This phenomenon is connected with two factors: the high percentage of the elderly in the population and the fact that hospitalization is the principal form of care now available. As a result, patients with diseases of all kinds are sent more or less directly to the hospital.

The same problem is likely to develop in the new hospital as well in the absence of effective measures to deal with the root cause, namely reducing the numbers hospitalized by setting up a network of community services, in accordance with Law No. 833 of 23 December 1978 establishing the National Health Service.

However, the cuts in the health budget have further delayed the organization of community services, so that the new hospital remains empty and has to be maintained at great expense, while at the same time two CAT units have been purchased, one for the new hospital and one for the children's hospital, in addition to the three already available in the comparatively small province of Friuli-Venezia Giulia.

At the present time, a real network of community services does not exist in Trieste. Medical care is provided, in the first place, by general practitioners who work in clinics but rarely visit a patient at home and never at night. There are, in addition, two public polyclinics overwhelmed by an enormous amount of routine work (mainly requests for prescriptions and tests); there are also outpatient consultation services in some hospital departments that cannot effectively cope with rehabilitation and preventive measures. There is also a medical service for primary schools, which employs physicians, medical auxiliaries and psychologists and provides a medical consultation service for workers. Moreover, four years ago, five family centres were created. These are outpatient services, open for certain periods on fixed days, where a number of gynaecologists, psychologists and social workers work as consultants.

Two hospitals are specially equipped to deal with chronically ill and elderly patients; one of them provides rehabilitation. There is also a geriatric department in the general hospital.

However, the elderly represent the main problem in all wards, especially in those for general medicine. Often, and especially during the winter and at holiday times, hospitalization constitutes the only form of accommodation available for the elderly who cannot rely on their families or on a community service. This often reduces the level of independence and socialization of the elderly and causes a further demand for both medical and welfare beds.

At the present time, everyone is entitled to free medical care from public services or from institutions which have signed an agreement with the authorities, linked together under the local health administration (LHA) whose budget is managed by a political board. In Trieste, the budget of the LHA exceeded 190 billion lire in 1983.

According to the National Institute of Statistics (ISTAT), the cost of medical care in Italy was 20 256 billion lire in 1981 or 5.52% of the gross national product. In the same year, the Federal Republic of Germany spent 11.5% and France spent 7.5% of the gross national product on health.

Welfare services

The assistance provided takes two forms: permanent accommodation in institutions for the elderly and children and financial assistance, which is granted to individuals and families through social workers. The allowances granted are usually very small. Over the last 10 years, reforms have systematically been made in a public home for poor elderly people and in a youth institution. In the home, more than half the beds have been removed and, in the meantime, new apartments in town have been provided and a social centre and a cooperative society have been established. The youth institution has been completely replaced by small apartments in town combined with social assistance. The city council has also organized a home help service for about 800 elderly people.

These improvements in welfare services are important, but the problem is far from being solved. In fact, both children and the handicapped are housed mainly in large institutions which are often located outside the pilot area. The institutions for the elderly are overcrowded and a large number of lonely elderly people are waiting to be admitted to them.

A network of private homes has developed over the last five years. They provide about 200 beds, which must be added to the 1800 beds for the elderly already available in the area.

A survey carried out in 1983 by the Provincial Administration concluded that the welfare services in Trieste look after about 30 000 people living in poverty. These services are provided by 132 welfare agencies, many of which are private and usually belong to religious institutions. The main problem lies in the lack of coordination between these agencies. The local authorities cover only a small part of the welfare costs and are also facing serious problems in coordination due to the lack of suitable, up-to-date legislation.

Data for 1979 on hospitals and welfare institutions are given in Tables 4 and 5, respectively.

Table 4. Hospitals, beds and medical staff, 1979

	Number of structures	Number of beds	Number of admissions	Number of physicians	Number of nurses
Public hospitals	5	2380	69 143	517	1995
Private clinics	4	336	N/A	30	114
Total	9	2716	69 143	547	2109

Table 5. Welfare institutions and beds, 1979

	Number of institutions	Number of beds
Institutions for the elderly and the disabled	23	1778
Institutions for the young	11	431
Total	34	2209

Mental health services

Existing facilities

The pilot area includes:

(*a*) one inpatient psychiatric department for children supported by the LHA, which provides 40 beds in the children's hospital;

(*b*) one university psychiatric clinic, which has signed an agreement with the LHA, with 40 beds;

(*c*) one emergency psychiatric unit (EPU) in the general hospital, open full-time, with eight beds;

(*d*) seven mental health centres (MHC) open 24 hours a day, seven days a week, each providing six beds;

(*e*) one service for elderly, former long-stay mental patients, covering 289 people living in individual or communal apartments;

(*f*) 22 apartments scattered throughout the city, for former long-stay mental patients;

(*g*) one psychiatric consultation team for prisoners.

The management board of the mental health services is responsible for services (*c*) to (*g*), which are under the LHA. In addition, there are 22 private neuropsychiatrists and two neurological departments in the general hospital, of which one is a university clinic with 30 beds and the other a hospital ward with 53 beds.

If this list is compared with the 1973 survey, it is seen that the number of psychiatric beds in the pilot area has decreased by 1400 units. Of these, 1200 were in the mental hospital and 200 belonged to the neurological sanatorium.

Over this period of time, the gradual decrease in the number of beds available went hand in hand with the organization of community psychiatric services, which did not exist at the time of the first census and which were completed by 1980 when the last MHC was established.

Fig. 1, showing the number of admissions to the psychiatric clinic and to the neurological departments, demonstrates that the decrease in the number of beds has not markedly affected the demand for these services.

The facilities and their functions

Neuropsychiatric division of the children's hospital

This division provides a service for children and adolescents under 19 years of age. It has 40 beds, 35 of which are occupied by brain-damaged, long-stay patients. The division also contains an outpatient service with five beds for patients with psychiatric syndromes.

University psychiatric clinic

This clinic has signed an agreement with the LHA. It has 40 beds and the average duration of stay is between 15 and 18 days. Patients are admitted directly to the clinic; the casualty department and the emergency psychiatric unit refer patients to the clinic at their own request.

The clinic has an outpatient department and provides training for doctors wishing to specialize in psychiatry. Students of psychiatry also do part of their training in the mental health centres.

Emergency psychiatric unit

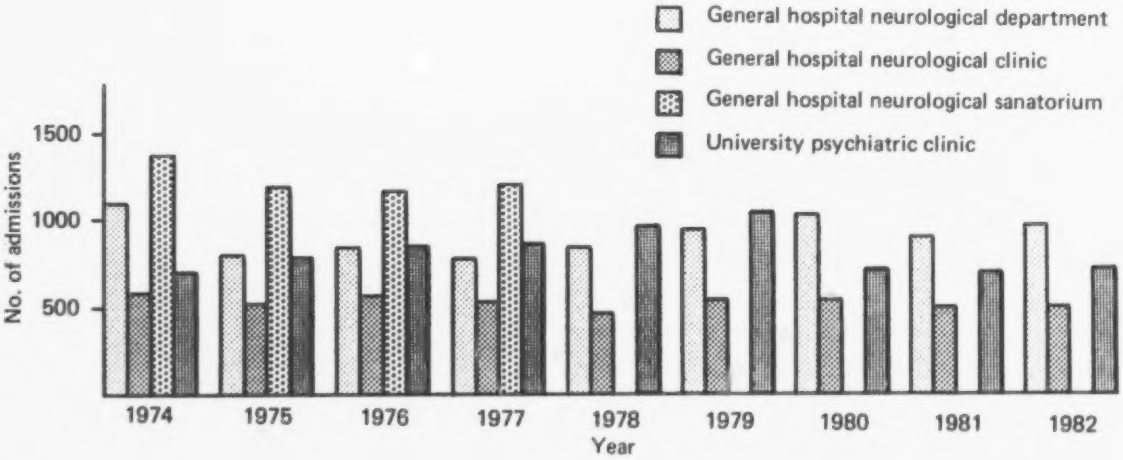
A person suffering from mental illness goes, or is sent, to the casualty department of the general hospital and then to the emergency psychiatric unit. Patients are also admitted directly to this unit, which handles the majority of cases of mental illness in the pilot area.

The unit is located in the general hospital but is under the direction of the MHC. It consists of two bedrooms with a total of eight beds, a hall with a telephone, a small kitchen and a lavatory.

The staff includes one full-time psychiatrist who is responsible for the unit, one psychiatrist on duty for an eight-hour period who also works at the MHC, and 17 nurses who are permanently employed at the MHC but who work at the EPU for an average period of 7–8 months.

The unit is open 24 hours a day, seven days a week. If a patient arrives during the day, the unit gets in touch with the MHC of the district of the city to which the patient belongs. A member of the MHC

Fig. 1. Admissions to the psychiatric clinic and neurological departments, 1974-1982



staff then comes to the EPU and deals with the situation (takes the patient to the MHC or back home).

If a patient arrives at night, he will probably sleep at the EPU, and the following morning the MHC responsible will look after him. The EPU has been operating in this way since 1978, when Law No. 180 of 13 May 1978 on voluntary and compulsory medical examinations and treatment made it possible to close the admission ward at the mental hospital.

This system has been developed step by step and is now aimed at performing three functions, as follows:

(*a*) avoiding the adverse effects of handling the critical phase of the illness separately from the therapy;
(*b*) avoiding, as a consequence, establishing a ward for patients passing through a critical period, where a large number of people suffering from serious illness are grouped together, adversely affecting each other and the staff and thereby creating further tension;
(*c*) ensuring that cases are properly distributed so that the patient goes directly to the service that is responsible.

The EPU also provides a consultation service for general hospital departments (243 consultations during 1982). A survey has shown that the EPU, during its first year of operation, dealt with 2483 patients.

Mental health centres (MHC)

Resources and personnel. The MHC are the basic structures of the psychiatric network in the pilot area, seven of them being distributed over the area, which is divided into seven subareas, each having from 20000 to 45000 inhabitants.

The MHC are open 24 hours a day, seven days a week. Each provides sick beds in double bedrooms, and usually a large living-room which is used for meals, meetings and other activities, a number of small rooms, a kitchen, a cloakroom and an office for the secretary. The staff works full-time and is permanent, and their duties remain essentially the same. Patients can come directly to the MHC or after having previously been to the EPU. The personnel (doctors, nurses and social workers) work for eight-hour periods. Nobody may be admitted to an MHC at night. Two nurses are in charge of night patients. Every day, between 1.30 and 3 p.m., a meeting is held by the personnel, and routine issues as well as personal problems are discussed. Each MHC is provided with two cars which can be used by the personnel, who are also allowed to use their own cars, in which case expenses are refunded.

The personnel totals 467 people, fairly evenly distributed among the centres: 31 psychiatrists, one psychologist, five sociologists, 17 social workers, 336 nurses, one pharmacist, two physiotherapists and 73 clerical and maintenance staff.

Functions. The MHC accepts all adult patients from its own area and keeps in touch with them through each stage of the disease, even when compulsory treatment is necessary or when long-term care is needed.

The MHC can be used in various ways, so that the type of care can change without the patient having to be sent to another institution or any change in the team, and without the need for any formal procedure.

The main types of care provided by the MHC are the following:

(*a*) full-time care: the patient stays in the MHC day and night;
(*b*) night care: the patient only sleeps at the MHC;
(*c*) day care: the patient spends the day at the MHC;
(*d*) home visits: the staff visits the patient at his home or the place where he is living;
(*e*) outpatient visits: the patient attends the MHC for only a few hours at a time.

As a consequence of this variety of types of care provided by the MHC, the patient can take part in the social life of the centre, while the staff carry out a large number of activities, most of which are aimed at improving individual situations, ranging from talks with the patient and contacts with his environment (family, work, friends, neighbours) to drug treatment and medical and social assistance.

In some cases, the patient needs a special form of care which is available from other medical or social services, but which is accessible to him only because the MHC staff make sure that his right to receive the care he needs is respected. Thus, the MHC staff may be able to find a place to which an elderly person can be admitted if he has been a psychiatric patient or is having psychiatric problems, or to find a home help to assist him with his housekeeping or a person to stay with him at night; to find a clinic or a general hospital department ready to accept a patient with a mental disease; to find a kindergarten or a home for the children of a female patient, thereby enabling her to continue to look after them, and so on.

This function of stimulating the health services and welfare agencies into taking action often requires a prolonged effort on the part of the staff member who is keeping a watch on the patient, and who at the same time must also keep in touch with the institution that is dealing with him. Thus, he may have to spend time in the general hospital ward, the institutions for the elderly and children, etc., in order to assist these institutions in treating a patient sent to them by the MHC. In some cases, this type of activity represents the main form of contact between the patient and the MHC.

It is now a major function of the MHC and has created a form of cooperation between them and certain sectors of the health system and the welfare agencies, as well as with certain police departments and courts and the local prison.

The MHC also provides direct welfare services that are not otherwise available in the area and which the staff considers necessary to enable the patient to continue to live in it and to be more or less independent. The most important is the allowance, which is a sum of money granted by the LHA and administered by the MHC. This sum is handed over once a month and is received by the patient or by the social worker. At present, this allowance is 280 000 lire, which is the same as the minimum state retirement pension (some types of pension in Italy are even smaller than this).

If a patient has no other sources of income, he will receive the full allowance, whereas if he already has a small pension, he will be entitled to an allowance to make this up to the minimum of 280 000 lire.

The allowance is paid by the LHA following personal reports and the necessary documentation provided by the social worker and the psychiatrist.

The duration of the allowance may vary. For a group of former long-stay patients, now living in the apartments in town and in the area of the mental hospital, the allowance has been the main source of income since the mental hospital was opened in 1973–1974.

For MHC users, the percentage of allowances granted for less than a year is comparatively low, owing to the fact that most of those concerned are the poorest among the patients and that the labour market in Trieste offers few job possibilities as a result of the continuing economic crisis.

The cooperative societies promoted by the MHC (see page 371) represent an effort to reduce social welfare allowances and to find new work opportunities for MHC users. However, allowances are not received only by the less affluent above. Some short-term allowances (less than six months) have been granted to young people and housewives with a steady family income, but no income of their own, who need a period of economic independence because they can no longer live with their family. For them, and also for those users who are starting a new life on their own, there is also a special allowance, which is generally higher than the regular one and is granted by the LHA as a single contribution for particular purposes (to restore a house, to buy furniture, etc.).

The MHC also organizes holidays, which may take various forms, for groups of patients and members of the staff. In this case, poor patients are financially assisted by the LHA.

Housing for elderly former long-stay patients

The mental hospital closed down in 1978, when the admission ward was closed and the present EPU was created; since 1974, no new patients have been transferred from the admission ward to other general departments. It currently consists of three large and three small buildings, which are empty and which the university proposes to reuse, one building which is now a secondary school (a technical school where the teaching is in Slovene), one which is used as a kindergarten, and one which houses the MHC of the S. Giovanni area. Other premises are used as a meeting place for theatrical companies and musical groups, as offices for cooperative societies, for the head office of the mental health services, and for the services for drug addicts, respectively. The remaining former wards are small buildings which are being used at present for the accommodation of 240 elderly former long-stay patients of the mental hospital.

The area on which the mental hospital stands belongs to the city council, and the LHA pays for the housing of these people, who are now referred to as "guests". They are looked after by 68 psychiatric nurses, who are scattered around in the apartments depending on the level of independence of the guests. Thus, 10 brain-damaged patients are looked after by 14 nurses, 41 elderly people with serious physical handicaps are served by 28 nurses and one psychiatrist, and three girls who underwent lobotomy in adolescence are attended by nine nurses. The remaining 17 nurses are allocated to the 187 guests who, to some extent, are able to manage their own lives.

All the guests are looked after by a general practitioner, who works in the district concerned and who refers them to the MHC of S. Giovanni if psychiatric care is needed.

This service was established for patients who had been hospitalized in the mental hospital for long periods: 10% of them for 40 years, 67% for from 39 to 15 years, and 12% for less than 15 years. At present, male guests slightly outnumber females; 49% of the males are over 65 years of age and 1.1% are between 35 and 45 years.

The service does not accept any new guests whether from the MHC or from the area. Thus, the number of guests is decreasing (289 in 1981 and 140 in 1983), both as a result of the deaths of some of them and of the fact that the younger and less dependent ones find accommodation in apartments in the area.

Apartments in town for former patients of the mental hospital

Those former mental hospital patients, who at the time of their discharge could neither rely on family support nor live on their own, often for economic reasons, are currently living together in 19 apartments scattered throughout the area. Of these, 13 are quite small (for two or three people) and six are suitable for 5–13 people. At present, they house 91 guests, 65% of whom are men, 24% are over 65 years of age and 32% are less than 45 years of age.

These apartments were acquired (the first in 1974 and the last in 1982) when the mental hospital began to empty and are viewed as permanent accommodation. There has therefore been no significant change in the guests accommodated in them. The LHA is responsible for part of the costs. All guests receive a pension or a grant or both, up to a minimum amount (see above) with which they contribute to their own living expenses.

Five of these apartments have nurses who work there every day; the others are visited by a social worker. All come under the MHC of the area, which is responsible for any guest who develops a psychiatric problem.

Psychiatric consultation team for prisoners

This service was started in March 1980 in agreement with the Ministry of Justice. It consists of two psychiatrists and two psychologists from the MHC, who attend the city prison twice a week at a prisoner's request. However, they may attend for up to seven days a week if this is required by urgent or serious problems.

In its first year, the service made 309 visits (277 to men and 32 to women) to 92 prisoners (75 men and 17 women), of whom 15 (11 men and 4 women) had already been in contact with an MHC and 77 (65 men and 12 women) were consulting the service for the first time.

This service was established for two purposes:

(*a*) to continue to provide care for mental patients who are under treatment or who have already been in contact with the service, even if they commit an offence, are put on trial or are sent to prison;
(*b*) to reduce or prevent admissions to hospital of mentally disturbed offenders, whether patients of the psychiatric service or prisoners presenting for the first time with mental illness.

The MHC psychiatrists are consulted as experts by the magistrates when a psychiatrist's report is required.

Over the period 1979–1981, the figures for committals to the Hospital for Mentally Disturbed Offenders were as follows:

	1979	*1980*	*1981*
Committal proposed	32	9	26
Committed:			
resident in Trieste	6	2	5
not resident in Trieste	9	3	11

The figures for those committed to the hospital directly by the courts (1977–1982) were as follows:

Year	*Number committed*
1977	11
1978	9
1979	4
1980	—
1981	2
1982	—

Cooperative societies

Ever since the process of opening up the mental hospital was started, the staff have promoted the setting up of cooperative societies among the patients, the main problem in the initial stages being to eliminate those forms of ergotherapy whereby patients did real work for which they received only symbolic payment. The first cooperative society was established as a replacement for such activities by mental hospital patients and those who were being discharged, and the administration gave it the task of cleaning the wards and maintaining the hospital gardens.

During the first three years, the cooperative was organized by a group of medical workers (one sociologist and about ten nurses, two of whom dealt with administrative matters and the remainder helped the cooperative group with their work). It became fully autonomous, however, six years ago. It no longer employs psychiatric staff and is managed by its own administration (one director, one accountant and two technical advisers).

It consists of a number of groups which carry out various activities: cleaning the MHC, maintaining the gardens and cleaning certain schools and the students' hostel.

At present, it employs 121 people, recommended either by the MHC or by the social service for prisoners, as well as ordinary unemployed people sent by the employment exchange.

Two other cooperative societies have been established on the same pattern of initial involvement of psychiatric workers and subsequent full independence. Of these, the first is an agricultural cooperative, which at present employs 16 people sent to it by the MHC, by the service for drug addicts and by the prison. The second was established in collaboration with the service for drug addicts. It runs a cafeteria and employs seven people.

At the beginning of 1983, a group of MHC workers (two psychiatrists and a number of nurses) established an employment agency that now collects all requests for temporary work from those who are still willing to accept this type of work (transport, house repairs and painting, baby-sitting, etc.), as well as from those who need it. The agency brings the two parties together and ensures that the work is properly done and rewarded.

These cooperatives are not to be considered as psychiatric services. They are intended for former mental patients or for people being kept under observation by the psychiatric services, and their work organization is structured so as to avoid discharges in case of disturbances and to gradually restore those who have been dismissed to their previous jobs. They provide a rehabilitation service, although forming part of the normal labour market. In fact, workers in the cooperatives are paid normal wages as well as social security contributions.

Patient census and cohort study

Patient census

The patient census covered 486 patients (0.2% of the population), with nearly equal numbers of (younger) males and (elderly) females. The age distribution was 2.6% under 20 years, 80.7% aged 60–64 years and 16.7% over 65 years. This is very similar to the cohort where the corresponding figures were 6.0%, 78.4% and 15.6%, but slightly different from the general population with 18.9%, 59.5% and 21.6% respectively.

In the patient census, the neuropsychiatric division for children had 11 patients, 2 inpatients with a diagnosis of neurosis and personality disorders and 7 outpatients with the same diagnosis. One patient in day care had a diagnosis of affective psychosis and another, also in day care, was mentally retarded.

The university psychiatric clinic had a total of 36 patients (19 males and 17 females). Their diagnoses were as follows: 13 alcohol and drug dependence, 10 affective psychoses, seven neurosis and personality disorders, five other psychosis and one organic psychosis. Eighteen (50%) were 40–64 years of age and eight (22%) were 65 years of age or over.

The emergency psychiatric unit had ten patients (four males and six females): one female over 65 years with organic psychosis, two females aged 40–64 years with affective psychosis, one male and two females aged 40–64 years and one female over 65 years with alcohol and drug dependence, and one male aged 20–39 years and two males aged 40–64 years with no psychiatric diagnosis.

For the seven mental health centres, Table 6 shows the distribution by diagnosis, age and types of contact of the 429 patients included in the census.

The patient census in the seven mental health centres shows that the largest diagnostic group is schizophrenia and paranoid states with 94 patients (21.9%), followed by alcohol and drug dependence with 69 patients (16.1%), and 60 patients (14%) with no psychiatric diagnosis. The patients suffering from schizophrenia and paranoid states use 41% of the full-time care, 19% of day care and 29% of the home visits. Otherwise the use of day care is the most striking feature. This type of care includes those structured activities carried out by the patient with the staff both inside and outside the MHC (personal care, buying clothes, looking for a job, exercise and so on) and participation in the

Table 6. MHC patient census by diagnosis, age and types of contact

Diagnosis	Age	Type of contact[a]					
		FTC	NC	DC	HV	OP	Total
Organic psychosis	≤19						
	20–39			1			1
	40–64			3	1	3	7
	≥65			10	3	1	14
	Total			14	4	4	22
Schizophrenia and paranoid states	≤19					1	1
	20–39	2	2	27	6	2	39
	40–64	13	1	26	2	1	43
	≥65	1		6	2	2	11
	Total	16	3	59	10	6	94

Table 6. (*Contd.*)

Diagnosis	Age	Type of contact[a]					
		FTC	NC	DC	HV	OP	Total
Affective psychosis	≤19						
	20–39			8			8
	40–64	4		27	3	4	38
	≥65	3		6	1		10
	Total	7		41	4	4	56
Other psychosis	≤19					1	1
	20–39	3	1	8	2	3	17
	40–64	3		23	1	4	31
	≥65			5	1		6
	Total	6	1	36	4	8	55
Neurosis and personality disorders	≤19					1	1
	20–39			13	3	2	18
	40–64	3		21	1	3	28
	≥65	1		1	1		3
	Total	4		35	5	6	50
Alcohol and drug dependence	≤19					1	1
	20–39			10		2	12
	40–64	3		48	2	1	54
	≥65			2			2
	Total	3		60	2	4	69
Mental retardation	≤19						
	20–39	1	1	6	1		9
	40–64			14			14
	≥65						
	Total	1	1	20	1		23
No psychiatric diagnosis[b]	≤19						
	20–39	1		8	2	1	12
	40–64		1	21		1	23
	≥65	1		18	3	3	25
	Total	2	1	47	5	5	60
Total	≤19					4	4
	20–39	7	4	81	14	10	116
	40–64	26	2	183	10	17	238
	≥65	6		48	11	6	71
	Total	39	6	312	35	37	429

[a] FTC = full-time care; NC = night care; DC = day care; HV = home visit; OP = outpatient care.

[b] Including four patients for whom diagnosis is not known.

social life of the MHC (meals, television, staff meetings, meetings of patients, activities carried out jointly with the people of the district, etc.).

Talks with the patient or with his family form part of these activities, as well as drug treatment. These two last types of contact are considered as outpatient visits when they are the sole purpose of the contact with the MHC and may last only a few hours.

The extension of day care is the result both of the lack of social contacts in the city and of the philosophy of the MHC staff, who encourage the patients to meet one another, the people working with the MHC (students) and those visiting it (family, friends).

Description of cohort

For the cohort study, 200 patients were collected who entered five mental health centres, starting from January 1980. Each of the centres involved in the study was asked to collect the first 40 consecutive patients who had not had any contact with the psychiatric services during the previous six months.

All the patients are over 15 years of age. Each patient in the cohort was followed up for a period of two years until about April 1982. Guests living in apartments who were being kept under observation by the MHC have been excluded, as have those whose only contact with the MHC was some form of social assistance.

Tables C1 and C2 and Fig. C1 contain data on the sex, age, marital status and diagnosis of members of the cohort. If these data are compared with the census data, it is possible to reach certain conclusions as to the ways that the mental health centres are used.

As far as age groups are concerned, the proportion of the elderly (over 65 years) is about the same in both the census and the cohort (16.6% and 15.6% respectively). The figure for the cohort is a consequence of the high percentage of elderly people in the area, mainly women. The figure for the census can be related to the difficulties that the elderly have to face in trying to find assistance and social contacts in everyday life. In fact, the census shows that only 5% of the elderly are without significant psychiatric problems.

In contrast, the fact that young people under 20 years of age account for 6% in the cohort and 1.3% in the census shows that the MHC tends not to be interested in them and to avoid establishing permanent relations with them.

Similar phenomena may be observed in the distribution of diagnoses. The percentage of neuroses in the cohort is almost twice as high as in the census, whereas the percentage of schizophrenia is the same in both (20.1% and 21.1%). The first phenomenon is probably connected with two factors: the incidence of these syndromes in the population is higher than before (in the mental hospital) and the relationship is more uncertain owing to the fact that the psychiatric clinic also treats these types of illness. The constant percentage of schizophrenia may be

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 199) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	>85	
Single	M		3.5	6.0	10.1	6.5	0.5			27.1
	F		2.5	5.0	4.0	2.5	0.5			17.1
Total			6.0	8.5	15.1	10.6	3.0	1.0		44.2
Married	M				5.5	3.5	1.5			10.6
	F				9.5	9.0	3.0	0.5		22.1
Total					15.1	12.6	4.5	0.5		32.7
Widowed	M					0.5	1.0	0.5		2.0
	F				2.0	3.0	1.0	2.0	0.5	8.5
Total					2.0	3.5	2.0	2.5	0.5	10.6
Divorced/ seperated	M				1.5	1.0	0.5			3.0
	F			0.5	2.0	1.5	0.5			4.5
Total				0.5	3.5	2.5	1.0			7.5
Not known[a]	M			0.5	0.5	1.0				2.0
	F				1.0	1.5	0.5			3.0
Total				0.5	1.5	2.5	0.5			5.0
Total	M		3.5	6.5	17.6	12.6	3.5	1.0		44.7
	F		2.5	3.0	19.6	19.1	7.5	3.0	0.5	55.3
Grand total			6.0	9.5	37.2	31.7	11.1	4.0	0.5	100.0

[a] Concubinate

connected with the nature of this disease; the relationship between these patients and their environment tends to be an unchanging one and of long duration.

Types of contact at the date of first entry

Two main conclusions can be drawn as to types of contact (see Tables C3–C5 and Fig. C2):

(a) outpatient contacts are frequent for all age groups and diagnoses;
(b) there is a total absence of day care.

It should be pointed out that, in the cohort study, the different types of care have been considered as completely different services, which is not quite correct. They are, in fact, separate services but are provided by

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25-44	45-64	>65	
Organic psychoses	M		1	2	3	6
	F	1		4	8	13
Total		1	1	6	11	19
Schizophrenia and paranoid states	M	4	8	7	2	21
	F	1	10	8	2	21
Total		5	18	15	4	42
Affective psychoses	M	2	4		1	7
	F		3	2	1	6
Total		2	7	2	2	13
Other psychoses	M		4	3		7
	F		4	3	3	10
Total			8	6	3	17
Neurosis and personality disorders	M	7	5	4		16
	F	4	13	13	4	34
Total		11	18	17	4	50
Alcohol and drug dependence	M	3	10	4	3	20
	F	2	7	3		12
Total		5	17	7	3	32
Mental retardation	M			2		2
	F	1			1	2
Total		1		2	1	4
Other	M	4	3	1		8
	F	1	1	3	2	7
Total		5	4	4	2	15
No psychiatric diagnosis	M					
	F					
Total						
Not known	M			2		2
	F	1	1	2	1	5
Total		1	1	4	1	7
Total	M	20	35	25	9	89
	F	11	39	38	22	110
Grand total		31	74	63	31	199

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 199) (See also Table C1)

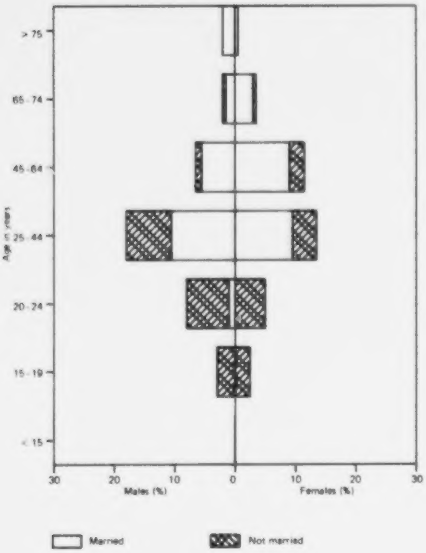


Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	89	88.8	11.2
Females	110	92.7	7.3
Total	199	91.0	9.0

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

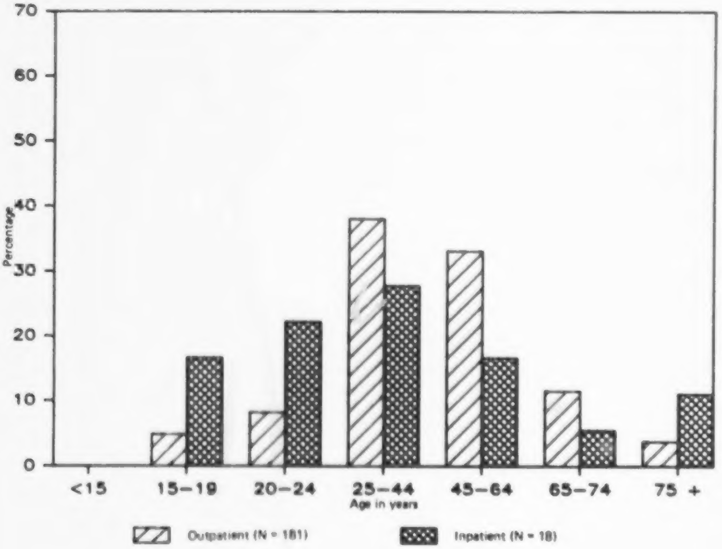
Type of contact	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Outpatient		9	15	69	60	21	6	1	181
Inpatient		3	4	5	3	1	2		18
Total		12	19	74	63	22	8	1	199

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis* 1	2	3	4	5	6	7	8	9	10	Total
Outpatient	16	37	12	13	47	32	4	13		7	181
Inpatient	3	5	1	4	3			2			18
Total	19	42	13	17	50	32	4	15		7	199

* The following diagnostic groups have been used
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



the same organization and staff. This affects not only the context of the care, but also its significance.

The MHC is an outpatient service which tries to ensure that the patient remains in his own environment. It provides full-time care from the time of the initial contact in the case of serious illness and outpatient care for the remainder of the problems. This explains the predominance of outpatient contacts.

However, during the initial contact period, it may happen that full-time care is no longer necessary or that outpatient care is not sufficient to overcome the patient's isolation or to change his relationships. In these cases, the patient is asked to attend the centre during the day, to carry out specific activities and to take part in the social life of the centre.

It may happen that an episode of care begins directly with day care in the case of patients who are well known to the MHC because they were long-stay patients at the mental hospital or are living in apartments under the care of the MHC. This group of users is not included in the cohort.

Types of contact during the first year

In Table C6, full-time care is combined with day care and night care. The frequency of day care has a marked effect on mixed treatment (outpatient and inpatient), as shown later in Table C9.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7[c]	1–5	6–7	
Organic psychoses	5	5	26	11		5	47	48	52	19
Schizophrenia and paranoid states	5			12	17	2	64	34	66	42
Affective psychoses			23	15		8	54	38	62	13
Other psychoses	6		12	12	6		65	35	65	17
Neurosis and personality disorders	16	8	24	16	2	10	24	66	34	50
Alcohol and drug dependence	13		19	19	3		47	53	47	32
Mental retardation	25			50			25	75	25	4
Other			13	13	13	13	47	40	60	15
No psychiatric diagnosis										
Not known	57			14			29	71	29	7
Total	11	3	15	15	6	5	46	49	51	199

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period less than three months
3 = outpatient contact every two weeks for a period less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 1 day patient and 3 night patients (one of whom has been a day and night patient) who have not been inpatients.

[c] Including 37 day patients and 3 night patients (two of whom have been day and night patients) who have not been inpatients.

Percentage of patients and types of contact during the follow-up episodes of care

The most important features brought out in Tables C7 and C8 and Fig. C3 are the number of patients still being followed up by the MHC and the percentage of "chronic" episodes of care. These are related to:

(*a*) the availability of psychiatric care in Trieste as a whole;
(*b*) the ways in which the MHC operates and its philosophy, and the types of assistance provided by them.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days*							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	16	21	32	47	47	53	74	19
Schizophrenia and paranoid states	5	5	7	7	7	9	24	42
Affective psychoses	15	15	23	23	38	46	46	13
Other psychoses	18	18	23	23	29	41	47	17
Neurosis and personality disorders	42	50	52	58	64	78	82	50
Alcohol and drug dependence	16	22	22	25	31	53	66	32
Mental retardation	25	50	50	50	100	100	100	4
Other	13	13	20	20	27	27	53	15
No psychiatric diagnosis								
Not known	57	57	57	57	86	100	100	7
Total	22	26	29	33	39	49	60	199

* The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

It happens only rarely that a patient leaves an MHC and moves to another psychiatric service, due mainly to the limited availability of such services in Trieste.

No significant movement to psychiatric services outside the pilot area has been found. Furthermore, the number of patients present in the MHC is remarkably high.

The philosophy of the MHC is to avoid the risk of "abandonment" of patients, which may occur when the number of available beds decreases, but the number of people needing to use the service does not. In this sense, the service tends to define as "chronic" those episodes of care in which the same pattern of care is repeated regardless of its length. In contrast, treatment which significantly modifies the patient's demands and the service's response is not regarded as "chronic" even if it is long-term.

For example, it may happen that the patient keeps in contact with the MHC but full-time care is no longer provided, or that day care becomes

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	26.3	36.8			10.5	10.5	10.5	5.3	19
Schizophrenia and paranoid states	7.1	42.9			2.4	2.4	45.2		42
Affective psychoses	15.4	23.1				7.7	46.2	7.7	13
Other psychoses	23.5	17.6			5.9	17.6	35.3	2.2	17
Neurosis and personality disorders	56.0	26.0			8.0	2.0	2.0	6.0	50
Alcohol and drug dependence	25.0	37.5			6.3	12.5	9.4	9.4	32
Mental retardation	50.0	25.0						25.0	4
Other	6.7	53.3			13.3	6.7	13.3	6.7	15
No psychiatric diagnosis									
Not known	71.4	14.3			14.3				7
Total	29.1	33.2			6.5	6.5	19.6	5.0	199

* Episodes of care:

1 = **Outpatient, short**

Some outpatient contacts, but *no* "long episode", i.e. comprising six contacts or more; *or*
some outpatient contacts and one or two "stays" in day or night hospital: the length of stay is less than 18 days.

2 = **Outpatient, medium or long but not chronic**

One or more long outpatient episodes. The different types of long episodes are characterized by the following averages:

	Type 1	*Type 2*	*Type 3*	*Type 4*	*Type 5*
Number of events	72	20	18	13	10
Length	493 days	328 days	88 days	142 days	40 days
Average interval between two events	7 days	21 days	5 days	13 days	4 days
Maximum interval	60 days	64 days	25 days	60 days	10 days
Concentration	0.51	0.45	0.51	0.63	0.26

or

outpatient contacts and "stays" in day or night hospital—the long outpatient episodes are mostly from types 2 or 4; the duration of the stays is between 20 and 440 days.

3 = **Inpatient, short**

No patient.

4 = **Inpatient, medium or long but not chronic**

No patient.

5 = **Mixed types of care, short**

One stay in hospital, of less than 21 days, and some outpatient contacts, but no long episodes.

6 = **Mixed types of care, medium or long but not chronic**

One or more stays in hospital, and one or more long episodes, and/or one or more stays in day or night hospital. The length of the stays does not exceed 37 days for hospital and 60 days for day hospital. The long episodes are mostly from type 3 (see above).

7 = **Chronic**

One or more stays in hospital and/or day or night hospital and one or more long episodes. The total duration of the care exceeds 500 days.

8 = **Not classified elsewhere**

a means of socializing rather than of carrying out scheduled activities. In addition, contact with the MHC may be continued, because of serious social problems rather than psychiatric ones or because the MHC is concerned more with the social context of the patient than with him at an individual level, and so on.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

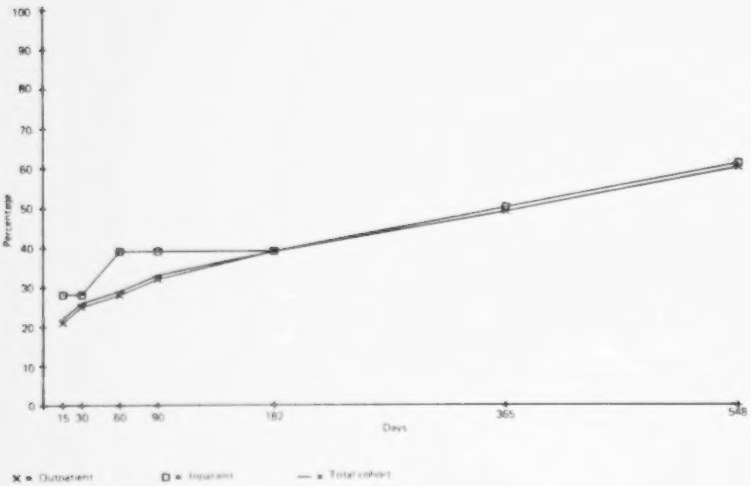


Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients			
	1	2	1+2	Outpatient	Day patient	Night patient	Beds
0–15	143	18	38	114.4	6.0	0.9	7.2
16–30	51	11	16	46.0	5.4	0.0	1.2
31–60	46	7	26	29.6	4.2	0.1	1.6
61–90	52	5	21	31.9	4.1	0.3	1.2
91–182	61	6	36	28.9	3.4	0.2	1.0
183–365	53	1	50	22.0	2.5	0.1	1.3
366–548	50	0	41	17.1	1.4	0.2	0.8
549–730	52	1	27	15.5	0.9	0.2	0.5
First year	98	5	96	29.9	3.2	0.2	1.6
Second year	48	1	52	16.3	1.1	0.2	0.6
First and second year	89	5	105	23.1	2.2	0.2	1.1

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1+2 = mixed care.

Caseload features

These considerations are confirmed by the data presented in Table C9. The use of the available beds, which has already decreased, is tending to decline still further; outpatient care and mixed care are the commonest forms of contact. It should be emphasized that the type of care requires to be analysed in greater detail in order to understand how the decrease in the use of beds has modified the patterns of care and the features of the outpatient services. The Trieste team intends to carry out this more detailed analysis for a full publication on the experiences gained over the last 10 years.

Groningen, Netherlands

The pilot study area

General and geographical information

The pilot study area of the Groningen centre is a town with 43 783 inhabitants situated 30 km from Groningen. Since 1970, the population has grown by 10%, but the rate of growth is slackening, having fallen from 3% annually to 1.5% more recently. The town is the capital and the cultural and administrative centre of the province of Drenthe, which has a population of 416 000 and is a largely rural region of 2681 km^2 in the north of the Netherlands. While occupying approximately 7% of the total surface area of the country, it has only 3% of its population. In 1976, the population density of the town was 836 per km^2 as compared with 153 per km^2 for the province and 406 per km^2 for the Netherlands as a whole. The railways play an important role in the system of communications: every hour of the day, there are three trains to the capital of the nearby province of Groningen and two to cities such as Amsterdam, Rotterdam and the Hague.

Sociodemographic profile

Population by sex, age and marital status

Table 1 gives the distribution by sex, age and marital status of the population of the pilot study area in 1976; 48% were males and 52% females. A quarter of the population is less than 15 years of age and 10.5% are 65 years or over. Of the adult population (15 years or over), 29.2% are single, 1.7% divorced, 7.2% widowed, and 62.7% married. The majority of the younger adults of 15–45 years of age are either single (42.2%) or married (56%). In the middle-aged group (45–65 years), 83.9% are married. Of the older population, many are widowed (37.6%) and about half are married (51.5%).

Employment and main economic activities

Table 2 shows the employment status of the population in 1971. This information is very much out of date, since unemployment has increased considerably over the past decade; in the province as a whole it rose from 2.4% of the total employable population aged 15–65 years in 1970

Table 1. Population of the study area by sex, age and marital status, 1976

Age group (years)	Males					Females				
	Single	Married	Widowed	Divorced	Total	Single	Married	Widowed	Divorced	Total
<15	5626				5628	5391				5391
15–24	3302	577		3	3882	3252	1009	4	19	4284
25–44	980	4563	15	110	5668	729	4797	63	139	5728
45–64	239	3699	84	100	4122	375	3530	463	123	4491
65–74	68	938	106	20	1132	177	747	538	31	1493
≥75	39	414	271	6	730	140	266	811	19	1236
All ages	10524	10191	476	239	21160	10064	10349	1879	331	22623

Table 2. Population of the study area by sex, age and type of activity, 1971

Age group (years)	Males					Females				
	Employed (1)	Unemployed (2)	Total economically active (1+2)	Not economically active (3)	Total (1,2,3)	Employed (1)	Unemployed (2)	Total economically active (1+2)	Not economically active (3)	Total (1,2,3)
<15	10		10	5750	5760	10		10	5570	5580
15–24	2020	65	2085	1670	3755	2135	25	2160	1965	4125
25–44	4560	60	4620	205	4830	1180	10	1195	3730	4925
45–64	3250	45	3305	545	3840	755	10	765	3285	4055
65–74	95		95	860	955	25		25	1265	1290
≥75	10		10	610	625	5		5	920	930
All ages	9845	175	10125	9635	19765	4110	50	4160	16735	20905

to 7.5% in 1976. More detailed information for the pilot study area is not available. It can be seen from Table 2 that 80.6% of the males aged 15–65 years were economically active as compared with 31.4% of the females of the same age and 3.5% of those aged 65 years or over.

A quarter of the adult population of the pilot study area is employed in industry and 61.3% in public services (1971 census). The main industries in the area are canning, meat, engineering and manufacture of domestic articles.

Population distribution and housing

The pilot study area is mainly urban in character. Only 2% of the population live in villages belonging to the same municipality or in isolated houses outside the periphery of the town. The majority of the population of the pilot study area inhabit new housing estates, which are interspersed with pleasant green areas around the small, older centre of the town. In 1970, in the province as a whole, there were on average 3.9 persons per household, of which 25% were one- or two-person households, and 26% consisted of five or more persons. Nearly every house has electricity, inside running water and flush toilet, and many have central heating and shower or bathing facilities.

Main ethnic and religious groups

The indigenous population of the pilot study area has incorporated migrants from other parts of the Netherlands over many decades, and more recently ethnic minorities from the former Netherlands East and West Indies have moved in. The latter groups tend to live together in the more peripheral parts of the town. The population of the province is predominantly Protestant (59%), while almost 10% are Roman Catholic, 27.8% do not belong to any religious group, and 3.9% belong to other religious groups. There are some migrant workers in the pilot study area, but the major concentrations of such workers in the Netherlands are to be found in the larger cities.

Indicators of social stability

No suicide rates are available for the pilot study area only. In 1975, 32 people committed suicide in the province and 1219 in the country as a whole. In both cases, this was 1% of all mortality. Crime rates are not available specifically for the pilot study area. Table 3 shows the crime rates per 100 000 population aged 12–79 years for the province and for the country as a whole.

Health and welfare system

Health services

General health care in the pilot study area is not very different from that in the province or the Netherlands as a whole. In 1976, there were

Table 3. Crime rates per 100 000 population aged 12–79 years in 1975

Type of crime	Drenthe	Netherlands
Sexual offences	4	6
Assault	107	67
Homicide and manslaughter	2	4
Crimes against property	130	151
All offences	462	340

21 general practitioners in the town (4.8 per 10 000 inhabitants; 3.9 in the province and 3.6 in the Netherlands). They can refer their cases to a general hospital with 358 beds, of which 34 are for psychiatry. This hospital, since it has one-quarter of all general hospital beds in the province, serves not only people from the pilot study area but also from the northern half of the province.

On the other hand, patients from the pilot study area may also go elsewhere, e.g. to the university hospital in Groningen some 30 km away. The province has 3.6 general hospital beds per 1000 population as compared with 5.1 for the Netherlands as a whole. In the pilot study area, there is also a nursing home (52 beds) for physically disabled people and patients with somatic disorders. It also serves a wider area than the town alone. In 1977, expenditure on health in the Netherlands was 21 517 million guilders (8.2% of the gross national product), of which about 14 000 million guilders came from compulsory or voluntary social security schemes and a further 25% from private and civil service health insurance schemes. Hospital services accounted for 58% of the total service costs in 1977. Most of the general as well as the psychiatric health services in the pilot study area and in the province were originally private, but are nowadays financed mainly from public funds. Current health policy emphasizes the need to regionalize responsibility for planning and health administration and to reduce the number of beds by closing inpatient and extending outpatient services.

The general health situation

The birth rate was 14.3 per 1000 population as compared with 13.5 in the province and 13.0 in the Netherlands. The mortality rate was 8.9 per 1000 population as compared with 8.2 in the province and 8.3 in the Netherlands. The three leading causes of death per 1000 population are shown in Table 4 for the pilot study area, the province and the country as a whole.

Table 4. Three leading causes of death per 1000 population in 1976

Cause of death	Pilot study area	Drenthe	Netherlands
Malignancies	216	239	243
Ischaemic heart disease	226	230	219
Cerebrovascular disease	120	106	111

Mental health services

Existing facilities

Inpatient, day patient and outpatient services, none of which serves the town only, are available in the pilot study area. All also serve parts or all of the province or even other provinces. Again, some patients from the pilot study area also make use of nearby services outside the area. During the past few years, however, there has been a tendency towards more defined catchment areas. The responsible authorities for all agencies are private foundations, which are funded in several ways. The costs of inpatient services are paid per bed day by voluntary or compulsory and private or civil service insurance schemes. The fee per bed per day is determined by a national board and adjusted annually. Financially, therefore, the services are not really private. Outpatient contacts at the outpatient clinics of the mental hospital and the psychiatric unit in the general hospital are paid per referral and contact. Since these inpatient and outpatient services are part of a single organization, overhead costs are often partly met from inpatient resources.

Other outpatient services, such as the social psychiatric service, child and youth services, the Institute for Psychotherapy and the addiction outpatient clinics, operate differently. They have a budget which is determined by the National Insurance Council and is financed from the contributions which have to be paid by all employees. There is thus really a kind of national insurance scheme. National policy during the late 1970s and early 1980s was directed towards decreasing the number of psychiatric beds by strengthening outpatient services. A second objective was to ensure greater integration of the services and to develop a uniform financing system. Finally, in and around the pilot study area, there are very few private psychiatrists as compared with other parts of the country.

Facilities and their functions

An attempt has been made to survey the services and their functional units in accordance with the "service inventory". The data collected, however, were very discordant and inconsistent. This was most evident when an attempt was made to tabulate the data. Depending on the source of the information, counts of beds and places in hospitals and day centres differ from one institution and functional unit to another. Even if it were possible to obtain consistent counts of beds in one and the same institution, which it is not, it would still not be possible to relate them to the population served because most institutions have no defined catchment area. The same applies to the outpatient clinics of hospitals. What can be stated with certainty is that the province of Drenthe has a large number of psychiatric beds compared with other parts of the country, but that a number of these beds are also used by patients from other provinces. The outpatient clinic of the mental hospital in the pilot study area is a relatively large, mainly psychotherapeutically oriented clinic.

The agencies covered by the service inventory, as well as by the cohort study, and the patient population that they are intended to serve are summarized below:

—four mental hospitals, three of which are located inside the province (one in the pilot study area itself): most have special sections for psychogeriatric patients, but patients under the age of 18 years are usually excluded;
—two psychiatric units (mainly for adults) in the general hospital, one in the pilot study area and the other in the nearby university clinic;
—one psychiatric unit for children and young people in the university general hospital;
—one hospital for children and young adolescents outside the pilot area;
—two hospitals for the mentally retarded of all ages (one in the pilot study area itself);
—two sanatoria for alcoholics and drug addicts, some way from the town; one is mainly for short-term treatment and the other for longer admissions; it also has a therapeutic community;
—one hospital for mentally disturbed offenders (outside the pilot study area);
—one psychiatric nursing home inside the pilot study area;
—two day hospitals; one is connected with the mental hospital inside the pilot study area and the other is in the psychiatric unit of the university general hospital;
—two half-way houses, one inside and the other outside the pilot area.

In addition to these inpatient and day patient services, the following outpatient services were included:

—two outpatient clinics of mental hospitals, which are concerned with general adult psychiatry (one inside the pilot study area);
—two outpatient clinics of the above-mentioned psychiatric units in the general hospital; they are oriented more towards neurotic patients and act as consultants to other hospital departments;
—one outpatient service for the addicted, which runs special programmes and pays home visits;
—one institute for psychotherapy, which is staffed by qualified psychotherapists working with a carefully selected group of patients;

—two outpatient child and youth services, which were combined to form a single service during the period of study;

—one social psychiatric service, with separate teams for adults and elderly patients; it was intended to be involved in the screening of patients before their eventual admission and particularly in aftercare; more recently, however, the care that this service delivers has not differed much from that provided by the outpatient clinics of mental hospitals except for a difference in the age-groups covered and for its home visiting service.

The four outpatient services mentioned above are located in the pilot study area but serve much wider areas. The last three of them were recently merged to form a single administrative unit.

Patient census and cohort study

Patient census

Census day was 31 December 1975. Inpatients and day patients were defined as those occupying a bed or a place at the time of the census, including those on weekend leave, outpatients as those attending at least twice within a period of three months around census day, including those changing from one service to another. On 31 December 1975, the point (or one-day) prevalence rate per 1000 population was 8.3, almost half being accounted for by inpatients or day patients. In a sequence of quarterly prevalence counts from 31 December 1973 to 30 March 1981 in the pilot study area, the census of 31 December 1975 appeared to have been somewhat lower than the others, particularly with regard to the outpatients. Usually around 1% of the population of the pilot study area were in contact with a service on census day.

The census covered 365 patients (175 inpatients and 190 outpatients), with nearly equal numbers of males (48%) and females (52%). The majority of the outpatients were married (48% of the males and 53% of the females), as compared with only 20% of the male inpatients and 19% of the female inpatients. The inpatients were older than the outpatients, since 33% of the inpatients (20% of the males and 46% of the females) were aged 65 years or over, while only 7% of the outpatients (7% for both sexes) were in that age-group. Of the outpatients, 39% were aged 25–44 years and 26% were aged 45–64 years; the corresponding figures for the inpatients were 28% and 20% respectively.

The percentage of inpatients in the census increased with age: 0–19 years, 31%; 20–39 years, 42%; 40–64 years, 46%; and 65 years or over, 83%. Of the age-group 0–19 years, 84% were in contact with the child and youth guidance service. Adults used a much wider variety of services, while the elderly again used only a few services, namely the psychogeriatric ward of the mental hospital, the psychogeriatric nursing home and the social geriatric outpatient service.

Of the inpatients, 54% had been in hospital for two years or more and 23% for less than six months. The figures for males and females did not differ greatly, but there were large differences if they were analysed by marital status: 70% of the single patients had been in hospital for two years or more as compared with 44% of the widowed, 33% of the divorced and 18% of the married. For the outpatients, there was also very little difference between the sexes: 42% had had 11 or more contacts, 24% six to ten contacts, 27% two to five contacts, and 7% had had one contact only. As with the outpatients, marital status was an important factor, a larger number of single outpatients having had a high number (11 or more) of contacts, namely 57% as compared with 39% of the married, 27% of the widowed and 29% of the divorced. Of the latter two groups, a large proportion had had one contact only (27% and 14%, respectively).

Inpatient services for the mentally retarded (95%) and for psychogeriatric patients (85%) had the largest long-stay population (one year or more) as compared with 53% for the mental hospital and none in the psychiatric unit of the general hospital and the addiction clinic.

The Institute for Psychotherapy had the largest percentage of patients with 11 or more contacts (80%); the child and youth guidance service (45%), the social psychiatric and geriatric service (43%) and the outpatient department of the mental hospital (42%) had an average percentage of patients with frequent contacts; and the addiction clinic (23%) and the outpatient department of the psychiatric unit in the general hospital (17%) a lower percentage. Of the latter two services, the majority of patients had six to ten contacts rather than 11 or more contacts.

In Table 5, the diagnostic distribution of inpatients and outpatients in the census is given according to age and sex. ICD codes[a] for patients

Table 5. Census of patients by age, sex, diagnosis and type of care

Diagnosis	Sex	Age in years and type of care[a]										Total	
		<15		15–24		25–44		45–64		≥65			
		IP	OP	IP	OP	IP	OP	IP	OP	IP	OP	IP	OP
Organic psychoses	M			1		2		1	1	11	2	15	3
	F					1			1	32	3	33	4
Total				1		3		1	2	43	5	48	7
Schizophrenia and paranoid states	M			1		6		4	3			11	3
	F					5	1	2	1	2		9	2
Total				1		11	1	6	4	2		20	5

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[a] From *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*, 9th Revision. Geneva, World Health Organization, 1977.

Table 5. (*Contd.*)

Diagnosis	Sex	Age in years and type of care[a]										Total	
		<15		15–24		25–44		45–64		≥65			
		IP	OP	IP	OP	IP	OP	IP	OP	IP	OP	IP	OP
Affective psychoses	M										3		3
	F				1		1	1	2			1	4
Total					1		1	1	2		3	1	7
Other psychoses	M			1			3	1		2		4	3
	F					2	3	4				6	3
Total				1		2	6	5		2		10	6
Neurosis and personality disorders	M			2	4	1	23	2	9	1	1	6	37
	F			2	13	6	28	4	16		2	12	59
Total				4	17	7	51	6	25	1	3	18	96
Alcohol and drug dependence	M						4	2	3	1		3	7
	F						1	1	1	1		2	2
Total							5	3	4	2		5	9
Mental retardation	M			9		8		1		1		19	
	F			1		7		6	1	2		16	1
Total				10		15		7	1	3		35	1
No psychiatric diagnosis	M				1		5	1	2	1		2	8
	F					1	3		2	2	1	3	6
Total					1	1	8	1	4	3	1	5	14
Other[b]	M	11	16	1	4							12	20
	F	1	5	2	4							3	9
Total		12	21	3	8							15	29
Not known	M			1	2	9	1	3	3			13	6
	F		1		2	1	1	2	4	2	1	5	9
Total			1	1	4	10	2	5	7	2	1	18	15
Total	M	11	16	16	11	26	36	15	21	17	6	85	90
	F	1	6	5	20	23	38	20	28	41	7	90	99
Total		12	22	21	31	49	74	35	49	58	13	175	189[c]

[a] Types of care: IP = inpatient care; OP = outpatient care.

[b] Since the majority of these people were 18 years of age or under, they were not assigned a diagnosis according to the ICD.

[c] One case missing.

aged up to 18 years were not available, because the triaxial child classification system employed in the Netherlands was used. As might have been expected, most patients with an organic brain syndrome were 65 years or over (87 % of inpatients and outpatients), two-thirds (67 %) were females, and most (87 %) were inpatients. Also, most patients with schizophrenia (80 %) were inpatients, but fewer of those with an affective psychosis (13 %) or other psychosis (63 %). In the last three diagnostic groups, most patients were aged between 20 years and 65 years and half of them were males. Addicted patients were mainly outpatients (64 %) and males (71 %), and 50 % belonged to the age-group 45–65 years. Of those with a neurosis or personality disorder, 84 % were outpatients, 62 % were females, and 69 % were younger than 45 years. Most of the mentally retarded were inpatients.

To relate absolute numbers of patients in the census to the population at risk, age-groups other than those used in Table 5 had to be employed. As can be seen from Table 6, in which the total census is shown by age and sex, the highest point prevalence rate is that of people aged 80 years or over. The point prevalence rate for people below 20 years of age is less than the average rate of 8.3 per 1000 population, and that for 50–70 years of age is close to the average. Table 7 shows much higher prevalence rates for single, widowed and divorced males and females.

Table 6. Total census by age and sex

Age (years)	Males			Females		
	No.	No. of patients	No. per 1000	No.	No. of patients	No. per 1000
0–9 10–19	7 563	33	4.4	7 524	18	2.4
20–29	3 883	40	10.3	4 081	30	7.4
30–39	2 631	29	11.0	2 625	33	12.6
40–49	2 213	27	12.2	2 354	26	11.1
50–59	2 184	19	8.7	2 385	28	11.7
60–69	1 491	11	7.4	1 723	12	6.9
70–79	827	8	9.7	1 279	18	14.1
80 +	368	8	21.7	652	24	36.8
Total	21 160	176	8.3	22 623	189	8.3

Description of cohort

The cohort was collected from the local case register in 1979. From 1 January onwards, 200 consecutive patients, aged 15 years or over, without prior contact with any of the mental health services participating in the register, joined the cohort. The first date of entry into the cohort of the last patient included was 30 April 1979. Table C1 and Fig. C1 show that the numbers of males and females are almost the same, i.e. 5.7 and 5.8 per 1000 males and females respectively, aged 15

Table 7. Total census by sex and marital status

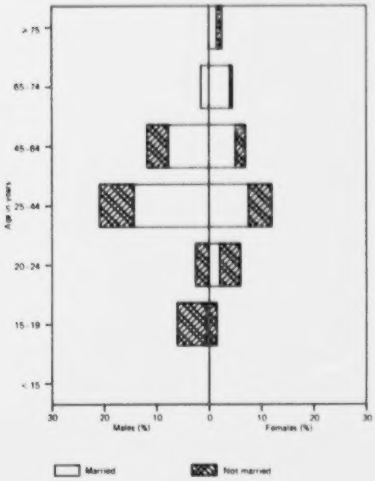
Marital status	Males			Females		
	No.	No. of patients	No. per 1000	No.	No. of patients	No. per 1000
Single	10 254	94	9.2	10 064	72	7.2
Married	10 191	58	5.7	10 349	68	6.6
Widowed	476	10	21.0	1 879	37	19.7
Divorced	239	12	50.2	331	12	36.3
Not known		2				
Total	21 160	176	8.3	22 623	189	8.3

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 200) (see also Fig. C1)

Marital status	Sex	Age in years								Not known	Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85		
Single	M		3.0	7.0	7.5	1.0	0.5				19.0
	F		1.5	4.0	4.5	2.0	0.5	1.0			13.5
Total			4.5	11.0	12.0	3.0	1.0	1.0			32.5
Married[a]	M			1.0	10.5	5.5	1.5	1.0	1.0		20.5
	F			2.0	7.5	5.0	4.0	1.0	0.5	0.5	20.5
Total				3.0	18.0	10.5	5.5	2.0	1.5	0.5	41.0
Widowed	M						1.0	1.0	1.5		3.5
	F					2.5	4.5	2.5	2.0	0.5	12.0
Total						2.5	5.5	3.5	3.5	0.5	15.5
Divorced/ separated	M			0.5	3.0	0.5					4.0
	F			0.5	2.5	0.5	0.5	1.0			5.0
Total				1.0	5.5	1.0	0.5	1.0			9.0
Not known	M										
	F		0.5		0.5			0.5			1.5
Total			0.5		0.5			0.5			1.5
Total	M		3.0	8.5	21.0	7.0	3.0	2.0	2.5		47.0
	F		2.0	6.5	15.0	10.0	9.5	6.0	2.5	1.0	52.5
Grand total			5.0	15.0	36.0	17.0	12.5	8.0	5.0	1.0	99.5

[a] One married patient missing, sex and age not known.

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 200) (See also Table C1)



years or over. Their age distribution is quite different, mainly because there are more younger males and elderly females in the population. The rates decline with age until 65 years, after which they rise again. Although the majority of the patients in the cohort were married (41.5%), their rate per 1000 married persons in the population was the lowest for any type of marital status, namely 4.1, as compared with 6.3 per 1000 single, 11.7 per 1000 widowed and 22 per 1000 divorced or separated. A comparison of the cohort with the census of 31 December 1975 showed a higher cohort/census ratio than the average of 0.57 up to 25 years of age (15–19 years, 0.73; 20–24 years, 0.82) and in the age-group 65–74 years (1.03), and a lower than average ratio for the age-groups 45–64 years and 75–84 years (0.39 and 0.44 respectively). This ratio shows the relationship between point prevalence and incidence. For example, the longer the duration of illness in a particular age-group the greater the likelihood of patients being included in the prevalence count in that age-group, which might result in a lower cohort/census ratio. This factor might explain the lower cohort/census ratio for single (0.49) as compared with widowed (0.59) or married (0.65) people.

Table C2 shows that in all age-groups, except the elderly, the largest diagnostic category is that of neurosis and personality disorders (almost 40% of the total cohort). The second largest group of mainly younger and often divorced or separated people is that of alcohol and drug dependence, followed by the category "not known". This large percentage of "diagnosis not known" is mainly the result of the reluctance of some mental health workers, particularly in the ambulatory social psychiatric service, to make any diagnosis. The comparison of cohort and census data shows lower ratios between cohort and census for organic psychoses, schizophrenia, other psychoses and mental retardation—diagnostic categories that are commonly associated with chronic disease.

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Not known	Total
		< 25	25–44	45–64	≥ 65		
Organic psychoses	M			1	5		6
	F				9		9
Total				1	14		15
Schizophrenia and paranoid states	M	1	1		1		3
	F		2	1			3
Total		1	3	1	1		6
Affective psychoses	M			2	2		4
	F	2		5	5		12
Total		2		7	7		16
Other psychoses	M	3	1				4
	F				1		1
Total		3	1		1		5
Neurosis and personality disorders*	M	8	19	5			32
	F	10	22	11	2	1	46
Total		18	41	16	2	1	78
Alcohol and drug dependence	M	7	11	5	1		24
	F	1	2		2		5
Total		8	13	5	3		29
Mental retardation	M	2	3	1			6
	F	2			2		4
Total		4	3	1	2		10
Other	M		4		1		5
	F		3	2	3		8
Total			7	2	4		13
No psychiatric diagnosis	M						
	F					1	1
Total						1	1

Table C2. (*Contd.*)

Diagnosis	Sex	Age in years				Not known	Total
		< 25	25-44	45-64	≥ 65		
Not known	M	2	3		5		10
	F	2	1	1	12		16
Total		4	4	1	17		26
Total	M	23	42	14	15		94
	F	17	30	20	36	2	105
Grand total		40	72	34	51	2	199

* For one patient with this diagnosis, the sex and age were not known

Types of contact at first entry

In Tables C3–C5 and Fig. C2, the type of contact at entry is cross-tabulated with the characteristics mentioned above. Most patients (89 %) entered the cohort as outpatients, while the census of 31 December 1975 contained only 52 % of outpatients.

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient*	Inpatient
Males	94	93.6	6.4
Females	105	84.8	15.2
Total	199	89.0	11.0

* For one outpatient, the sex and age were not known.

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Not known	Total
	<15	15-19	20-24	25-44	45-64	65-74	75-84	≥85		
Outpatient		10	29	62	27	22	16	9	3	178
Inpatient			1	10	7	3		1		22
Total		10	30	72	34	25	16	10	3	200

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis* 1	2	3	4	5	6	7	8	9	10	Total
Outpatient	13	4	13	5	69	27	10	11	1	25	178
Inpatient	2	2	3		10	2		2		1	22
Total	15	6	16	5	79	29	10	13	1	26	200

* The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Types of contact during the first year

Table C6 shows that the most common type of contact during the first year consisted of infrequent outpatient contacts for a period of 3–12 months (37 %). The second most common type of contact consisted of admissions combined with outpatient contacts (18 %). The latter type is more common among patients with schizophrenia or addiction.

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

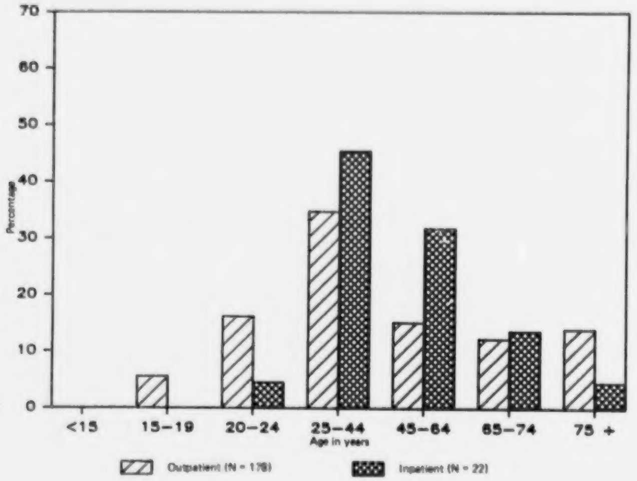


Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6	7	1–5	6–7	
Organic psychoses	27		13	33		7	20	73	27	15
Schizophrenia and paranoid states	17	33	17			17	17	67	33	6
Affective psychoses	6	6	13	44	13	13	6	81	19	16
Other psychoses	40	20	20	20				100	0	5
Neurosis and personality disorders	9	8	4	41	14	8	18	75	25	79
Alcohol and drug dependence	3	3	21	24	10	3	34	62	38	29
Mental retardation	20		10	40	10		20	80	20	10
Other		8	8	46	23	8	8	85	15	13
No psychiatric diagnosis				100				100	0	1
Not known	8	8	19	42	8		15	85	15	26
Total	10	7	11	37	11	6	18	76	24	200

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	20	27	27	27	27	47	53	15
Schizophrenia and paranoid states	17	17	33	50	50	50	50	6
Affective psychoses	12	12	19	25	50	69	81	16
Other psychoses	40	40	40	60	80	80	100	5
Neurosis and personality disorders	6	8	16	20	33	57	70	79
Alcohol and drug dependence	3	10	17	28	55	66	72	29
Mental retardation	30	30	30	30	50	60	80	10
Other	15	15	15	15	46	62	62	13
No psychiatric diagnosis	0	0	0	0	0	100	100	1
Not known	15	19	27	35	58	85	85	26
Total	11	14	20	26	43	63	72	200

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Percentage of patients and types of contact during the follow-up episodes of care

Tables C7 and C8 and Fig. C3 show that, during the two-year follow-up period, the most common episode of care was the brief one (41.5 %). Mixed types of care and chronic cases are more common among patients with a psychosis or an addiction than among those in other diagnostic categories. Table C7 shows that, after six months, almost half the

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	66.7	6.7		6.7			20.0		15
Schizophrenia and paranoid states	50.0			33.3		16.7			6
Affective psychoses	50.0	25.0	6.3	6.3		12.5			16
Other psychoses	80.0				20.0				5
Neurosis and personality disorders	31.6	39.2	5.1	13.9	1.3	6.3	1.3	1.3	79
Alcohol and drug dependence	27.6	37.9	3.4	10.3	6.9	3.4	10.3		29
Mental retardation	30.0	50.0			10.0			10.0	10
Other	30.8	53.8	7.7			7.7			13
No psychiatric diagnosis	100.0								1
Not known	65.4	19.2		7.7			3.8	3.8	26
Total	41.5	32.0	3.5	10.0	2.5	5.0	4.0	1.5	200

[a] Episodes of care:

1 = **Outpatient, short**
Some outpatient contacts, but no "long episode", i.e. comprising six contacts or more.

2 = **Outpatient, medium or long but not chronic**
One, two or three long episodes. The different types of long episodes are characterized by the following averages:

	Type 1	*Type 2*	*Type 3*	*Type 4*
Number of events	10	43	9	64
Length	110 days	544 days	211 days	420 days
Average interval between two events	12 days	15 days	27 days	7 days
Maximum interval	29 days	52 days	64 days	8 days
Concentration	0.33	0.31	0.42	0.07

3 = **Inpatient, short**
One "stay" in hospital, of less than 50 days. Some isolated outpatient contacts.

4 = **Inpatient, medium or long but not chronic**
One or two stays in hospital, of between 51 and 365 days; some isolated outpatient contacts.

5 = **Mixed types of care, short**
One or more stays in hospital and one or more episodes of less than six outpatient contacts. The length of the stays does not exceed 15 days.

6 = **Mixed types of care, medium or long but not chronic**
One or more stays in hospital and one or more long episodes. The length of the stays does not exceed 175 days. The long episodes belong to types 1, 2 and 3 above (see 2).

7 = **Chronic**
More than 500 days in hospital and/or outpatient contacts.

8 = **Not classified elsewhere**
One "stay" in hospital; *or*
the last "contact" with the hospital is an admission during the two-year follow-up period. The date of this admission is not close to the boundaries of the observation period.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

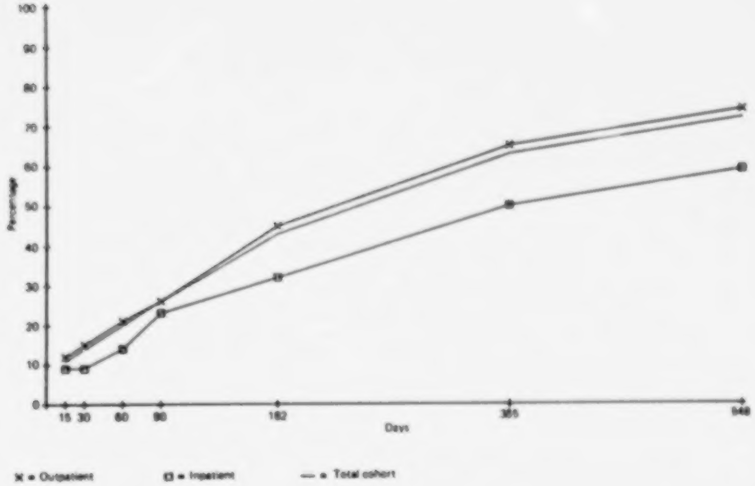


Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:*			Contacts per week per 100 patients		
	1	2	1+2	Outpatient	Day patient	Beds
0–15	170	18	12	68.2		12.6
16–30	61	16	11	24.8		12.6
31–60	74	25	6	18.3		12.8
61–90	67	19	5	14.7		10.6
91–182	86	12	9	10.6	0.4	6.2
183–365	72	16	10	9.2	0.5	6.1
366–548	42	16	5	6.7	0.5	6.9
549–730	32	18	6	4.5	0.5	7.0
First year	152	10	38	13.8	0.4	7.6
Second year	45	17	12	5.6	0.5	7.0
First and second year	145	9	46	9.7	0.4	7.3

* These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

patients (43%) had no further contacts during the rest of the two-year follow-up period, while 18 months after the first contact, this percentage had increased to 72%. There were certain differences between the various diagnostic categories and between those who started as outpatients and those admitted to hospital. Of the latter, more had contacts during the last part of the follow-up period, which is in line with previous findings showing that the percentage of inpatients was higher in the census than in the cohort.

Caseload features

Table C9 shows the caseload features. During the first year, on average, 7.6 beds were occupied per 100 patients; in the second year, the figure was almost the same (7.0). However, the number of outpatient contacts per 100 patients during the second year was only 40% of that in the first year (5.6 per week as compared with 13.8). It fell sharply after the first two weeks and then decreased gradually. The very limited availability of day places and the absence of night places are the reason why little use is made of such care.

Oslo, Norway

The pilot study area

General and geographical information

The pilot study area in Oslo is made up of two sections, one in the north-western part of the city and another in the south-east. Together they have a population of 107 302, or 23.9 % of the total population of Oslo.

The north-western section is slightly heterogeneous. An enclave towards the centre of the city has numerous apartment houses from the beginning of the century and an older population than the rest of the area. Old houses and old people constitute the main features of the central areas of Oslo.

However, during the last ten years, a slight trend in the opposite direction can be observed, with younger people moving back to the central areas. The peripheral part of the north-western section is one of the most prosperous districts in Oslo, with many one-family houses and high income and educational levels. However, within this area, a new suburb with apartments in taller houses has grown up during the 1970s. The south-eastern section is mainly suburban and has developed in different phases since the 1950s. The buildings are mostly apartment houses with some one-family houses scattered among them. The population is mainly middle-aged or in the younger age group. The income and educational levels are not as high as in the north-western section.

As the capital of Norway, the city of Oslo is the administrative centre of the country, so that it is also a centre for business and finance. This has a great influence on the occupational structure of the city, many people working in the administrative, educational and service sectors. On the other hand, Oslo also has many industries, the most important being shipping, ship building, forestry, electrical engineering and pharmaceuticals. Although Oslo does have economic difficulties, like the rest of the country, the unemployment rate was low (0.3–0.5 %) during the last few years of the 1970s.

Since the Second World War, Oslo has grown considerably as a result of internal migration in Norway. People have broken away from rural traditions, values and ways of life and have moved into an urban environment. This has resulted in increased contact between people of different cultures and religious beliefs both in Oslo and in the rest of the country. Over the last ten years, there has also been an increase in the number of foreign workers entering the country. This immigration has been controlled by means of fairly strict legislation. The exact number of foreign workers in Oslo is difficult to estimate because many of them have probably not registered with the authorities.

Sociodemographic profile

Population by sex, age and marital status

Table 1 shows the population by sex and age. There are more females (54 %) than males (46 %), and this difference holds true for all age groups, except for those under 15 years, and increases with age. Nearly one-fifth (18.3 %) of the population is 65 years or over, while 46 % are married (50 % of the males and 43 % of the females), 40 % are single, 7 % are widowed (3 % of the males and 12 % of the females), and 6 % are separated or divorced.

Table 1. Population by sex and age, absolute and as a percentage of total population

Sex	Age in years					Total
	< 15	15–24	25–44	45–64	≥ 65	
Absolute						
Males	8411	7506	13593	12903	7124	49537
Females	8117	8163	13710	15192	12583	57765
Total	16528	15669	27303	28095	19707	107302
Percentage						
Males	7.8	7.0	12.7	12.0	6.6	46.1
Females	7.6	7.6	12.8	14.2	11.7	53.9
Total	15.4	14.6	25.5	26.2	18.3	100.0

Employment and main economic activities

As already mentioned above, Oslo is the administrative, economic and cultural centre of the country, and this markedly affects the occupational structure. A larger proportion of the labour force is thus employed in administration and services than in the rest of the country. As previously mentioned, unemployment remained low until the beginning of the 1980s, when it increased slightly, mainly for industrial workers, but the rate is still less than half that for the country as a whole (1.7 %).

Population distribution and housing

The two sections of Oslo which constitute the pilot study area are, as mentioned above, urban or suburban in character. Most of the residences are of high quality with modern amenities, 78.5% with bath and 79.2% with flush toilets, the only exceptions being in the older houses in the north-western section. Electricity and telephones are available everywhere. Overcrowding is unknown (2.0 persons per household compared with 2.7 in the country).

Main ethnic and religious groups

Practically 100% of the population are Protestants, and only a small percentage is not of Norwegian origin. Immigration of foreign workers has been strictly regulated, except for those from other Nordic countries, and poses few problems.

Indicators of social stability

Social stability in Oslo has followed the pattern seen in other urbanized areas in the world. Compared with other parts of the country, the suicide, juvenile delinquency and alcohol and drug abuse rates have increased, as confirmed by a number of psychiatric epidemiological studies. In a comparative study of adolescents, the rate of psychiatric disorder in Oslo was 19.7% as compared with 8% in rural areas. An epidemiological study of the adult population has shown a mean rate in Oslo of 20%, while epidemiological studies of the adult population of rural areas in the east of Norway have found lower rates.

Official statistics of social stability, health services and mortality/morbidity are only available for Oslo as a whole because the pilot study area is not an administrative entity.

As mentioned earlier, the two sections of the pilot study area show considerable variation in population structure, housing and social conditions. It is reasonable to assume, therefore, that the rates for Oslo given below will not differ greatly from the values for the pilot study area. The number of suicides per 100000 population in Oslo and Norway as a whole in 1977 was 24.4 and 16.9 respectively for males and 15.9 and 7.6 respectively for females. The number of registered crimes of violence investigated per 100000 population was 200 in Oslo as compared to 90 in Norway; the corresponding figures for persons charged with such crimes were 40 per 100000 for Oslo and 28 for Norway.

Health and welfare system

A compulsory national insurance scheme exists in Norway, covering sickness, accidents at work, rehabilitation and retirement. All health services are available free of charge or at very low cost to the patient. At the primary health care level in Oslo, the health services are integrated with the social services in the 20 social districts into which the city is divided.

Health services

As the pilot study area is not an administrative entity, data can be given only for Oslo and Norway. The health services and health personnel available are shown in Tables 2 and 3 respectively.

Table 2. Health services available in Oslo and Norway

Type of service	Oslo		Norway	
	Number of beds	Beds per 1000 population	Number of beds	Beds per 1000 population
General hospitals	3 340	7.25	21 591	5.33
Psychiatric hospitals and psychiatric wards	1 146	2.49	8 473	2.09
Institutions for the mentally retarded	441	0.96	3 873	0.96

Table 3. Health personnel available in Oslo and Norway

Type of personnel	Oslo		Norway	
	Number	Number per 1000 population	Number	Number per 1000 population
General practitioners	197	0.43	1 906	0.47
Psychiatrists (total)	147	0.30	410	0.10
Psychiatrists in private practice	29	0.06	64	0.02

The general health situation

Infant mortality (deaths under one year of age per 1000 live births) is slightly lower in Oslo (10.8) than in Norway (11.6). Life expectancy at birth was 71.4 years for males and 77.7 years for females in 1971–1975 and increased to 72.1 years for males and 78.4 years for females in 1977.

The five leading causes of death in 1977, in decreasing order of incidence, were heart diseases, malignant neoplasms, cerebrovascular diseases, pneumonia and accidents.

Mental health services

In Oslo, the mental health services are integrated with the social services. At the primary health care level, as already mentioned, Oslo is divided into 20 social districts and, at the secondary level, these districts are grouped together to form four different catchment areas for the mental health services, the pilot study area being one of them.

During the 1970s, old institutions were reorganized and new institutions opened in order to provide a more comprehensive service. In this reorganization, outpatient clinics and aftercare units were given high priority. However, these efforts have been hampered by limited resources and a lack of qualified nurses. In the aftercare sector, it has been proved that lack of suitable housing, work and social support has greatly prolonged the length of time spent in mental hospitals by many patients.

Existing facilities

The mental health services in the pilot study area consist of a number of institutions with different traditions and tasks and none of them receives patients from the pilot study area only. As shown in Table 3, there are 29 psychiatrists in private practice in Oslo, but the number of patients from the area that they see is not known.

Services that include the pilot study area in their catchment area

The relevant services are shown in Table 4.

Table 4. Mental health services in the pilot area

Name of service	Responsible authority	Type of service
State Centre for Child and Adolescent Psychiatry, child clinic	State Directorate of Health, Social Department	Outpatient/day patient and inpatient service
State Centre for Child and Adolescent Psychiatry, adolescent clinic	State Directorate of Health, Social Department	Outpatient/day patient and inpatient service
Gaustad Mental Hospital, male department	State Directorate of Health, Social Department	Mental hospital, aftercare unit
Gaustad Mental Hospital, female department	State Directorate of Health, Social Department	Mental hospital, aftercare unit
University Psychiatric Clinic, Vinderen	State Directorate of Health, Social Department	Outpatient/day patient and inpatient service
Bogerudheimen outpatient clinic	Oslo Board of Health, for the City of Oslo	Outpatient service

Facilities and their functions

State Centre for Child and Adolescent Psychiatry

The State Centre for Child and Adolescent Psychiatry (SCCAP) was opened in 1963 as a clinical, educational and research centre for the whole country. It is divided into child and adolescent clinics (the child clinic was formerly located at Rikshospitalet, a central medical institution in Oslo). The age-group covered by the child clinic is roughly 0–12 years and, at the adolescent clinic, roughly 12–18 years. Both clinics have branched out into different specialized subunits, and a well-equipped educational system forms an integral part of both of them. After psychiatry had been sectorized in Oslo in the 1970s, the SCCAP was made responsible for the care of children and adolescents in the pilot study area, but still uses most of its resources for clinical work at the national level.

Of the patients admitted to the SCCAP in 1979, the proportion from the pilot study area was 35.4% at the child clinic and 26.5% at the adolescent clinic.

Gaustad Mental Hospital

Gaustad Mental Hospital has quite a different history. It was opened in 1850 as the first mental hospital in Norway and admitted patients from the whole country. In the years after the Second World War, it was still used for those parts of the country where the mental health services were poorly developed. For many years, it was divided into male and female departments, and was still organized in this way when the present WHO project started. However, it has now been reorganized, and the male and female departments replaced by other units. Of the patients admitted to Gaustad Mental Hospital in 1979, 46.1% of those in the male department and 44.8% in the female department came from the pilot study area.

University Psychiatric Clinic

The University Psychiatric Clinic was built in 1920 with the task of treating a broader spectrum of mental diseases, especially neuroses and non-psychotic conditions. At the same time, it was responsible for strengthening the education, training and research at the university level. The clinic now has four different subunits and, after sectorization, was made responsible for patients from the pilot study area (the outpatient unit handles patients mainly from the north-western section of the pilot area). In 1979, 58.4% of the patients admitted to the clinic came from the pilot study area.

Bogerudheimen outpatient clinic

The Bogerudheimen outpatient clinic was established over the last few years with the task of dealing with patients from the south-eastern section of the pilot study area. This institution is owned by the city of Oslo and administered by the Oslo Board of Health. In 1979, 97.2% of the patients admitted came from the south-eastern section of the pilot study area.

Patient census and cohort study

Patient census

At the beginning of 1979, it was announced that the Norwegian Directorate of Health was planning a national census of patients in mental hospitals and psychiatric clinics. After discussion with the leader of this national census, it was clear that this was going to provide most of the data needed for the WHO (Phase III) census. Therefore, after the national census was carried out on 1 November 1979, information on the patients in the institutions serving the pilot study area in Oslo was extracted for separate analysis.

The procedure, though logical and economical in time and money, had certain disadvantages from the point of view of the census of the pilot study area. The national census provides data only on the adult population in day patient and inpatient units (institutions serving children and adolescents were not covered). The census is also probably not fully representative of the adult population in the pilot area. This is connected with the reorganization of the mental health services in Oslo in 1976, when the boundaries of the present catchment areas were decided. Before that date, chronically ill patients were not necessarily admitted to what would now be the appropriate institutions. However, the proportion of patients from the pilot study area in institutions outside that area is probably not large.

The census covered a total of 132 patients from the pilot study area, more or less equally distributed between the sexes (52% males and 48% females), the proportion of females increasing with age. Of the patients, 19% were aged 65 years or over (6% of the males and 33% of the females), 16% were married (12% of the males and 20% of the females), 55% were single (72% of the males and 36% of the females), 15% were widowed (1% of the males and 30% of the females), and 14% were divorced. As regards diagnosis, 36% of the patients were schizophrenics, half of them being single males, 23% had neuroses (57% of them females), and 8% had other psychoses. Finally, 45% had been in hospital for less than two months, and 36% for one year or more; of the latter group more than one-third had been inpatients for more than five years.

Description of cohort

As a result of the reduction in personnel in 1980 in both the SCCAP and the University Psychiatric Clinic, these services had had to reduce their responsibilities by reducing the size of their catchment areas. For this reason, their catchment areas are now only a part of the original pilot study area.

The implication of these changes for the cohort study was that the patients originally selected for the cohort between 1 and 30 June 1979 would not necessarily be treated by the services in the pilot study area over the whole of the follow-up period, i.e. until 30 June 1981, since some of them might now be treated outside that area. The only way of solving this problem was to restrict the patients in the cohort to the smaller part of the pilot study area and to those services which had served this population during the two-year follow-up period. The cohort is therefore drawn from social area 5, Majorstua, and only Gaustad Mental Hospital and the University Psychiatric Clinic services are included.

The cohort consisted of 211 consecutive patients, aged over 19 years, entering these services in June 1979 who had not been in contact with the services for at least six months prior to entry. As a consequence of the reorganization of the services and transfer difficulties, 30 patients have been omitted from the analysis, among them being nine patients admitted as day patients. This loss has not changed the main characteristics of the cohort to any great extent, and the remaining cohort of 181 patients can therefore be regarded as fairly representative.

Tables C1 and C2 and Fig. C1 show a predominance of females (61 %). In the inpatient census, the percentage of females was 48.5 %, female predominance being most marked among the outpatients. These and other findings show that females enter the services more frequently than

Table C1. Cohort by sex, age and marital status,[a] in percentages of total cohort (N = 181) (see also Fig. C1)

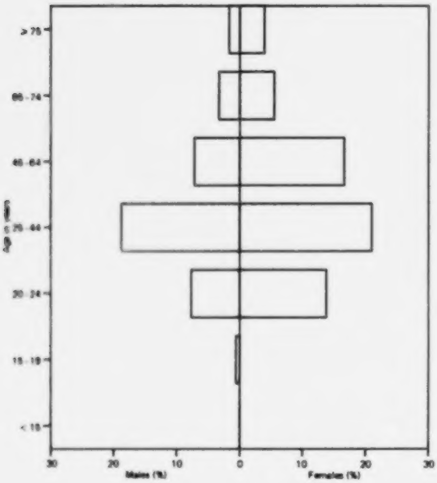
Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M									21.0
	F									23.8
Total										44.8
Married	M									9.9
	F									18.2
Total										28.1
Widowed	M									1.1
	F									6.6
Total										7.8
Divorced/ separated	M									7.2
	F									12.2
Total										19.3
Total	M		0.6	7.7	18.8	7.2	3.3		1.7	39.2
	F			13.8	21.0	16.6	5.5	3.3	0.6	60.8
Grand total			0.6	21.5	39.8	23.8	8.8	3.3	2.2	100.0

[a] Information on marital status by age not available.

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M		1	1	2	4
	F		1		5	6
Total			2	1	7	10
Schizophrenia and paranoid states	M	1	7		1	9
	F		1	5	2	8
Total		1	8	5	3	17
Affective psychoses	M			1		1
	F		2			2
Total			2	1		3
Other psychoses	M	1	1			2
	F	3	4	2	1	10
Total		4	5	2	1	12
Neurosis and personality disorders	M	7	18	6	4	35
	F	14	21	20	4	59
Total		21	39	26	8	94
Alcohol and drug dependence	M	1	2	5	1	9
	F	1	3	2		6
Total		2	5	7	1	15
Mental retardation	M	3				3
	F	4	4		1	9
Total		7	4		1	12
Other	M					
	F					
Total						
No psychiatric diagnosis	M	2	5		1	8
	F	2	2	1	3	8
Total		4	7	1	4	16
Not known	M					
	F	1				1
Total		1			1	2
Total	M	15	34	13	9	71
	F	25	38	30	16	109
Grand total		40	72	43	26	181

Fig. C1. Cohort by age and sex, in percentages of total cohort (N = 181) (See also Table C1)



males, but that males seem to stay longer, as shown by the equal distribution of the sexes in the inpatient population.

Only 28% of the cohort were married, and more than half the patients had a diagnosis of neurosis and personality disorders.

Types of contact at first entry

Tables C3–C5 and Fig. C2 show that 85% of the cohort started as outpatients. Diagnosis seems to influence the type of contact at entry; 8.5% of the patients with a diagnosis of neurosis and personality disorders entered the cohort as inpatients, while for schizophrenics this figure was 29.4% and for alcohol and drug dependents 46.7%.

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	71	84.5	15.5
Females	110	86.4	13.6
Total	181	85.6	14.4

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Outpatient			36	58	37	16	5	3	155
Inpatient		1	3	14	6		1	1	26
Total		1	39	72	43	16	6	4	181

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis*										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	9	12	2	8	86	8	12		16	2	155
Inpatient	1	5	1	4	8	7					26
Total	10	17	3	12	94	15	12		16	2	181

* The following diagnostic groups have been used

1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Types of contact during the first year

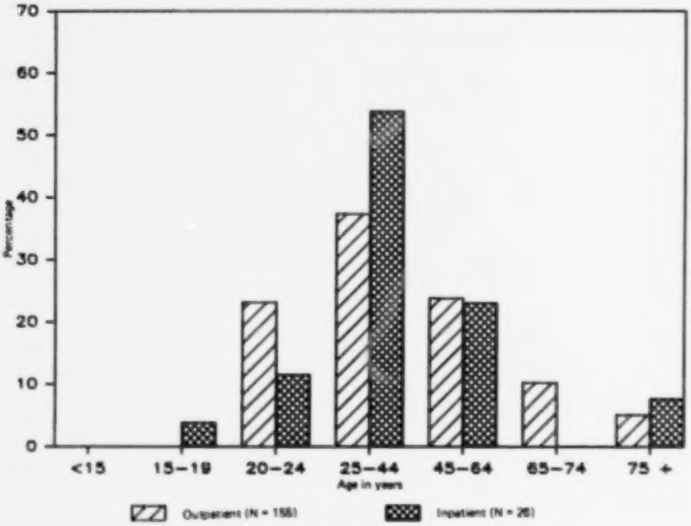
Table C6 shows that 70% of the patients had only outpatient contacts and 29% had only one outpatient contact. There was considerable variation, depending on diagnosis; thus 71% of patients with a diagnosis of schizophrenia had one or more inpatient episodes during the first year, as compared with 47% of those with alcohol and drug dependence and only 22% of those with neurosis or personality disorders.

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that 43% of the cohort had left the services after 15 days and 56% had left them after 30 days.

There were considerable variations, depending on diagnosis; patients with a diagnosis of psychosis had a greater need to continue the contact with the services than those with neurosis and personality disorders, while alcohol and drug dependants occupied an intermediate position.

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



Only 5% of the cohort became chronic users, while the majority (62%) had short outpatient care only.

Caseload features

Table C9 essentially confirms the patterns outlined above, the burden on the services being greatest during the first two weeks and decreasing steadily thereafter.

General comments on the cohort analysis

As previously mentioned, some caution is necessary in interpreting the Oslo cohort data because of the loss of a number of patients. However, the patient characteristics of the cohort are representative from the point of view of age, sex, marital status and diagnosis of new patients entering the services in this area. The data on the utilization of the services do not reflect that of the day patient facilities (but this was fairly small; less than 5% of the cohort entered as day patients). However, it is clear from the tables and figures that the majority of the patients left the cohort after a few weeks but that the length of time before leaving it depends greatly on diagnosis. Finally, the data are considered to be fairly representative of the health services in the area during the follow-up period.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Types of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7[c]	1-5	6-7	
Organic psychoses	70					10	20	70	30	10
Schizophrenia and paranoid states	12		12	6		24	47	29	71	17
Affective psychoses	33			33			33	67	33	3
Other psychoses	33		8		17	25	17	58	42	12
Neurosis and personality disorders	23	3	43	7	1	12	11	78	22	94
Alcohol and drug dependence	47		7			47		53	47	15
Mental retardation	8		50	17		8	17	75	25	12
Other										
No psychiatric diagnosis	56	6	19	6			13	87	13	16
Not known			100					100	0	2
Total	29	2	30	7	2	15	15	70	30	181

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 2 day patients who have not been inpatients.

[c] Including 1 day patient who has not been an inpatient.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	70	70	90	90	90	100	100	10
Schizophrenia and paranoid states	12	18	29	35	47	59	71	17
Affective psychoses	33	33	33	33	67	67	67	3
Other psychoses	25	42	42	42	67	92	92	12
Neurosis and personality disorders	43	61	74	77	83	93	95	94
Alcohol and drug dependence	47	53	53	53	60	60	73	15
Mental retardation	33	58	67	67	75	92	92	12
Other								
No psychiatric diagnosis	75	81	81	87	100	100	100	16
Not known	50	50	100	100	100	100	100	2
Total	43	56	67	69	78	87	91	181

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentage of N in each diagnostic category

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	70.0		10.0	20.0					10
Schizophrenia and paranoid states	23.5	17.6	5.9	29.4		5.9	17.6		17
Affective psychoses	66.7						33.3		3
Other psychoses	33.3	16.7	16.7	8.3	16.7	8.3			12
Neurosis and personality disorders	68.1	9.6	6.4	5.3	2.1	6.4	2.1		94
Alcohol and drug dependence	53.3		6.7	20.0			20.0		15
Mental retardation	75.0	8.3	8.3	8.3		8.3			12
Other									
No psychiatric diagnosis	81.3	6.3		6.3	6.3				16
Not known	100.0								2
Total	61.9	8.8	6.6	9.9	2.8	5.0	5.0		181

* Episodes of care:

1 = **Outpatient, short**
One or two "short episodes", i.e. comprising less than six contacts each.

2 = **Outpatient, medium or long but not chronic**
One long episode and some isolated outpatient contacts. The different types of long episodes are characterized by the following averages:

	Type 1	*Type 2*
Number of events	10	6
Length	118 days	35 days
Average interval between two events	15 days	6 days
Maximum interval	31 days	11 days
Concentration	0.37	0.37

or
one "stay" in day hospital, of between 15 and 95 days.

3 = **Inpatient, short**
One "stay" in hospital, of less than 22 days.

4 = **Inpatient, medium or long but not chronic**
One stay in hospital, of between 23 and 570 days, *or*
several stays in hospital, each of less than 60 days. Some isolated outpatient contacts.

5 = **Mixed types of care, short**
Stays in hospital and outpatient episodes, but no more than six outpatient contacts, and no more than 12 days in hospital.

6 = **Mixed types of care, medium or long but not chronic**
Stays in hospital and/or day hospital, and outpatient episodes. The total "duration" of care is between 110 and 450 days, the duration of inpatient care is between 15 and 160 days.

7 = **Chronic**
Stays in hospital and/or day hospital, and/or outpatient episodes. The length of the interval between the first and the last contact exceeds 500 days. A few months without care are sometimes observed.

8 = **Not classified elsewhere**
No patient.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

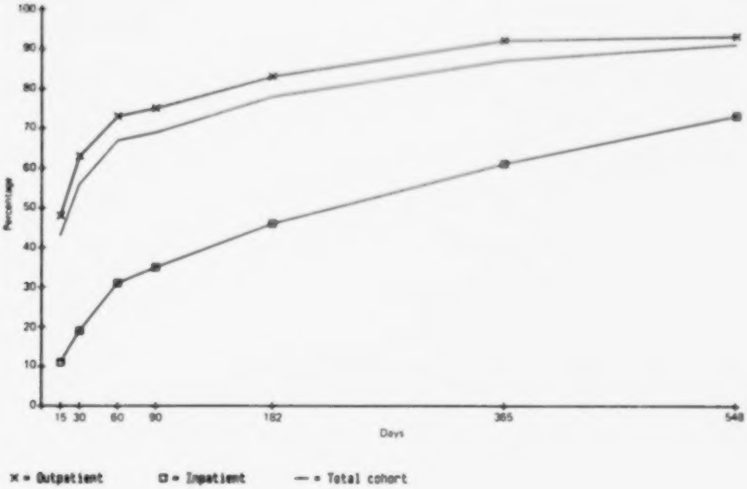


Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	148	24	9	66.5	0.6	12.6
16–30	46	20	4	18.1		10.7
31–60	28	18	5	6.5	0.3	6.7
61–90	14	17	2	3.1	1.0	7.0
91–182	15	22	3	1.3	0.6	7.1
183–365	9	18	6	0.4	0.2	6.1
366–548	2	13	2	0.1	0.6	4.1
549–730	4	12	1	0.2	0.2	2.3
First year	127	18	36	4.8	0.5	6.9
Second year	5	15	3	0.1	0.4	3.2
First and second year	125	16	40	2.4	0.4	5.1

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Iaşi, Romania

The pilot study area

General and geographical information

The county of Iaşi, of which the city of the same name is the capital and cultural and economic centre, is situated on the central Moldavian plateau. The city itself is on the banks of the Bahlui river on seven low hills surrounded by orchards, vineyards and woods.

In 1981, the population of the county was 765 791 (population density 139 inhabitants per km^2), of whom 289 287 were living in the city of Iaşi (population density 3194 inhabitants per km^2). The four suburban areas of Iaşi have a total population of 18 708 inhabitants.

Although the city of Iaşi is an ancient meeting place of many cultures and a focal point in the scientific and political history of Romania, it is in many respects a new and modern town, since its population has grown rapidly from 100 000 in 1950 to the present 300 000 inhabitants. In addition, the formerly rather underdeveloped county has seen considerable changes, due to the growth of chemical, engineering, food and textile industries, and to the increasing modernization and improvement of agriculture.

Over the last 10–15 years, the road and rail networks have improved markedly and public and private transport facilities have increased.

Sociodemographic profile

Population by age and sex

Data from the 1981 census are available only for the city of Iaşi and are shown in Table 1.

Of the total population of 289 287 inhabitants, 48.5% were males and 51.5% females. More than a quarter of the population (27.4%) were less than 15 years of age and only 5.8% were 65 years or over, figures that show clearly the youthful character of the population.

In 1981, 2646 marriages and 774 divorces took place in the city of Iaşi, and a total of 4317 births and 2412 deaths were recorded.

Employment and main economic activities

In 1981, 55.3% of the total population were economically active (58.7% of the males and 45.2% of the females). The males were employed

Table 1. Population by sex and age, absolute and as a percentage of total population, 1981

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Absolute						
Males	40 001	23 349	48 089	22 033	6 857	140 329
Females	39 262	29 199	47 168	23 343	9 986	148 958
Total	79 263	52 548	95 257	45 376	16 843	289 287
Percentage						
Males	13.8	8.1	16.6	7.6	2.4	48.5
Females	13.6	10.1	16.3	8.1	3.4	51.5
Total	27.4	18.2	32.9	15.7	5.8	100.0

predominantly in industry, construction, transport and communal services, the females in commerce, education, health services and administration.

The city of Iaşi is a major industrial centre with 39 industrial enterprises, of which 31 are of national importance. The industries concerned, in order of importance, are chemicals, metal processing and machine production, metallurgy, food and textiles.

Population distribution and housing

In addition to the city of Iaşi, the county contains three other towns, namely Pascani with 31 381 inhabitants, Hirlau with 9077 inhabitants and Tirgu Frumos with 8028 inhabitants, all of which must be considered suburban in character.

Only the city of Iaşi is truly urban, thanks to the developments that have taken place over the last 20 years, and has predominantly modern housing of reasonable quality and with modern amenities. The average number of people per room is 3.9 but, in view of the present rate of housing construction, this is expected to decrease within the next few years.

Main ethnic and religious groups

Practically all (98%) of the population are Romanians and predominantly of the orthodox religion. The small groups of gypsies, Hungarians and Germans present no special problems.

Indicators of social stability

Despite the rapid industrialization and population increase over the last two decades, there are no signs of any decrease in social stability in the area.

In 1981, 1.9% of the total deaths in the city of Iaşi were due to suicide and 0.9% to homicide. Of the total population, 0.6% were in prison.

As measured by the number of people admitted for alcohol problems, there has been a reduction in alcohol abuse between 1976 and 1981.

Health and welfare system

Health services

In 1981, the number of hospital beds in the county of Iaşi was 9616, of which 6086 were in the city of Iaşi. In 1976, the corresponding figures were 7962 and 5354 respectively.

Between 1976 and 1981, the health services of the city of Iaşi developed as follows:

	1976	*1981*
Hospitals	11	12
Physicians	853	1219
Dentists	110	179
Pharmacists	140	184
Nurses	2832	3609

In addition, the following services were available (1981):

—two homes for the elderly with 350 beds;
—one sanatorium for balneotherapy with 184 treatment places;
—29 industrial health centres;
—36 district health centres;
—10 outpatient clinics.

The general health situation

The level of health in Iaşi seems very similar to that for Romania as a whole as far as indicators such as infant mortality (28.6 per 1000 population) and life expectancy (67.5 years for males and 72.1 years for females) are concerned.

The five leading causes of death are also the same in Iaşi as in Romania, namely diseases of the circulatory system, diseases of the respiratory tract, tumours, accidents and digestive disorders, although the general mortality level is slightly lower in Iaşi.

Mental health services

Existing facilities

Of the total number of hospital beds in Iaşi, namely 8616 in 1981, 1886 were psychiatric beds. Since the general hospitals in Iaşi do not have psychiatric beds, these 1886 psychiatric beds were distributed as described below.

The Socola Clinical Hospital for Psychiatry has 810 beds in ten wards, of which nine wards with 750 beds are for acute adult patients and one ward with 60 beds is for children. In addition, the Socola Hospital operates a day hospital with 50 places used solely for patients from the city of Iaşi 5 km away.

The Galata Hospital (with 240 beds), the Padureni Hospital (with 250 beds), the Ciocirlesti Hospital (with 60 beds) and the Raducaneni Hospital (with 100 beds) are situated 5–40 km from the city of Iaşi and cater mainly for long-term patients from the city.

The Tabara Hospital in Sipote village, 70 km from Iaşi, has 426 beds and is administratively independent of the other services. This hospital serves mainly long-stay patients and runs a farm of 200 ha.

In addition, the county is served by inpatient services for 200 severely handicapped children; these are separate from the psychiatric hospitals.

All the outpatient services available to the population of the city of Iaşi are administered, coordinated and staffed from the Socola Hospital. These services are as follows:

- —two outpatient clinics in the city itself, one for adults and one for children;
- —one outpatient clinic for the industrial area (adults);
- —two outpatient clinics for pupils and students.

Day services for severely handicapped children were established in 1981, and also make use of 30 beds at the Galata Hospital.

Patient census and cohort study

Patient census

The patient census covered all patients admitted to the Socola Hospital during 1981. This gave a total of 13 822 patients, of whom 6825, or 49.4 %, came from the city of Iaşi. The majority of the patients (9973 or 72.2 %) were 25–64 years of age (6042 between 25 years and 44 years), 1299 or 9.4 % were less than 15 years of age, and 430 (3.1 %) were 65 years or over.

Cohort study

The cohort consisted of all patients entering the inpatient, day patient and outpatient services administered by the Socola Hospital between 2 January and 31 May 1979, who were over 19 years of age and who had not been in contact with any of the services for at least six months prior to entry. Data are lacking for 28 patients who either moved out of the pilot study area or were released within 24 hours of admission. The cohort nevertheless includes a total of 200 patients who were followed up for a two-year period.

Tables C1 and C2 and Fig. C1 contain information on the age, sex, marital status and diagnostic distribution[a] of the cohort. As in all

Table C1. Cohort by sex, age and marital status, in percentages of total (N = 200) (see also Fig. C1)

Marital status	Sex	Age in years <15	15–19	20–24	25–44	45–64	65–74	75–84	⩾85	Total
Single	M			0.5	1.5					2.0
	F			3.0	5.0	0.5				8.5
Total				3.5	6.5	0.5				10.5
Married	M				12.0	9.5	0.5			22.0
	F			3.5	36.5	12.5				52.5
Total				3.5	48.5	22.0	0.5			74.5
Widowed	M									
	F			0.5	1.5	2.5	0.5			5.0
Total				0.5	1.5	2.5	0.5			5.0
Divorced/ separated	M					1.5				1.5
	F			1.0	4.0	3.5				8.5
Total				1.0	4.0	5.0				10.0
Total	M			0.5	13.5	11.0	0.5			25.5
	F			8.0	47.0	19.0	0.5			74.5
Grand total				8.5	60.5	30.0	1.0			100.0

cohorts, there are more females than males, although here the sex difference, with almost three times as many females (74.5 %) as males (25.5 %), is much higher than in most other pilot study areas. More than two-thirds (69 %) of the cohort is 44 years or younger (73.8 % of the females and 54.9 % of the males). Three-quarters of the cohort (74.5 %) are married (70.5 % of the females and 86.3 % of the males), 10.5 % are single and 10 % are separated or divorced. By far the largest diagnostic group is neuroses and personality disorders (68.5 %, 74.5 % of the females and 51 % of the males) followed by nearly equal numbers with alcohol and drug dependence, affective psychoses and "other". Only seven patients had the diagnosis schizophrenia and paranoid states and a further seven had organic psychoses.

Types of contact at first entry

Tables C3–C5 and Fig. C2 show that only 8 % of the cohort entered as outpatients while two-thirds (67 %) entered as inpatients and 25 % as day

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[*] Although, for the sake of uniformity, the diagnosis "alcohol and drug dependence" has been retained in Table C2, there is no drug dependence in the Iaşi pilot study area.

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M		2	2		4
	F		1	2		3
Total			3	4		7
Schizophrenia and paranoid states	M		2	1		3
	F	1	1	1	1	4
Total		1	3	2	1	7
Affective psychoses	M		1	1	1	3
	F		4	4		8
Total			5	5	1	11
Other psychoses	M					
	F		2	2		4
Total			2	2		4
Neurosis and personality disorders	M	1	15	10		26
	F	11	75	25		111
Total		12	90	35		137
Alcohol and drug dependence	M		5	4		9
	F		2	2		4
Total			7	6		13
Mental retardation	M					
	F					
Total						
Other	M		2	2		4
	F	2	8	2		12
Total		2	10	4		16
No psychiatric diagnosis	M			2		2
	F	2	1			3
Total		2	1	2		5
Total	M	1	27	22	1	51
	F	16	94	38	1	149
Grand total		17	121	60	2	200

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 200) (See also Table C1)

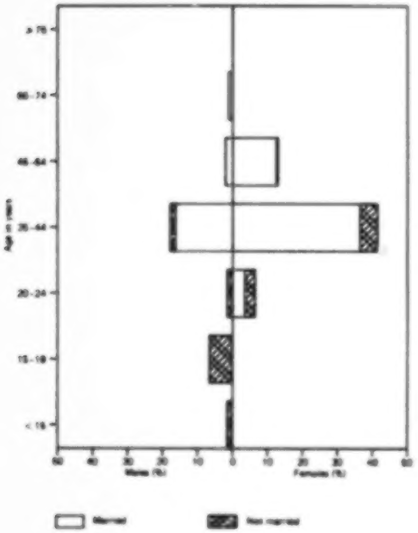


Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry		
		Outpatient	Inpatient	Day patient
Males	51	7.8	78.4	13.7
Females	149	8.1	63.1	28.9
Total	200	8.0	67.0	25.0

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

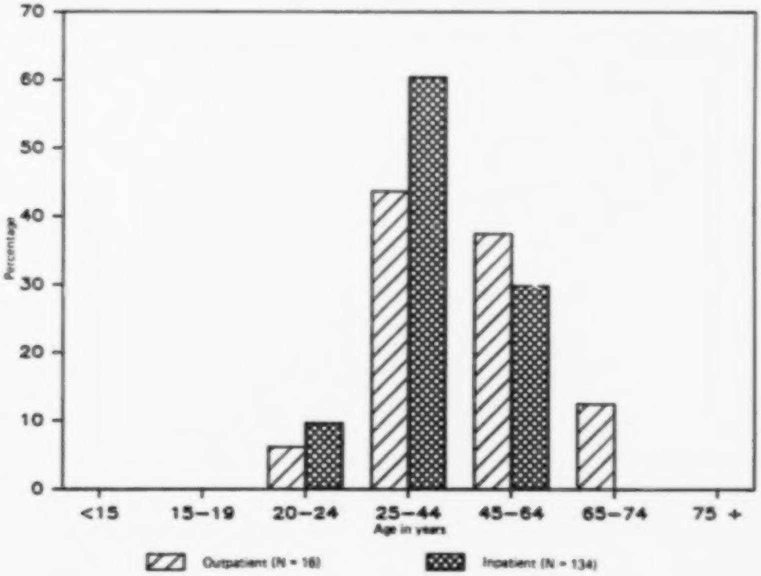
Type of contact	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Outpatient			1	7	6	2			16
Inpatient			13	81	40				134
Day patient			3	33	14				50
Total			17	121	60	2			200

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis*										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient		4	7		3			2			16
Inpatient	6	2	4	4	93	13		7	5		134
Day patient	1	1			41			7			50
Total	7	7	11	4	137	13		16	5		200

* The following diagnostic groups have been used
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



patients. The age distribution of inpatients and day patients was almost the same, with 60% and 66% respectively being 25–44 years, the outpatients being slightly older.

Types of contact during the first year

Table C6 shows that 92% of the cohort had both inpatient and outpatient care during the first year and that only two patients had one outpatient contact only. The majority of patients receiving outpatient treatment only were those with affective psychoses, schizophrenia and "other". Almost all (98%) of the neurotics received both inpatient and outpatient care.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact*									N = 100%
	1	2	3	4	5	6	7	1–5	6–7	
Organic psychoses							100		100	7
Schizophrenia and paranoid states			57				43	57	43	7
Affective psychoses		64					36	64	36	11
Other psychoses							100		100	4
Neurosis and personality disorders	1	1				25	73	2	98	137
Alcohol and drug dependence						69	31		100	13
Mental retardation										
Other					12	38	50	12	88	16
No psychiatric diagnosis						60		40	0	100
Total	1	4	2		1	26	66	8	92	200

* Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that, after 60 days, almost half (46%) of the cohort had no further contact with the services. After 18 months, 94% of the day patients had left the services, as had 76% of the inpatients. The 7% of the cohort who became chronic users were seven patients with affective psychoses, three with schizophrenia, two with organic psychoses and two with neurosis and personality disorders.

Caseload features

Table C9 shows that the heaviest burden falls on the services for the inpatients and day patients during the first month after entry. For the outpatients, the heaviest burden in terms of absolute numbers comes from one to six months after entry, while measured in contacts per week per 100 patients, it comes from two weeks to two months after entry.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days*							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	0	0	0	29	43	43	43	7
Schizophrenia and paranoid states	0	0	0	0	0	0	0	0
Affective psychoses	0	0	0	0	0	0	0	0
Other psychoses	0	0	0	0	50	50	50	4
Neurosis and personality disorders	7	35	55	65	71	75	84	137
Alcohol and drug dependence	38	61	77	77	77	85	100	13
Mental retardation								
Other	12	37	44	50	56	62	81	16
No psychiatric diagnosis	0	20	20	20	20	40	60	5
Not known								
Total	8	31	46	55	61	65	74	200

* The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses		14.3			28.6	28.6	28.6		7
Schizophrenia and paranoid states						57.1	42.9		7
Affective psychoses						36.4	63.6		11
Other psychoses					50.0	50.0			4
Neurosis and personality disorders	24.8	10.9	16.1	1.5	21.9	23.4	1.5		137
Alcohol and drug dependence			84.6	15.4					13
Mental retardation									
Other	12.5	25.0	25.0		12.5	25.0			16
No psychiatric diagnosis			20.0	40.0		40.0			5
Total	18.0	10.0	19.0	3.0	18.0	25.0	7.0		200

* Episodes of care:
1 = outpatient, short
2 = outpatient, medium or long but not chronic
3 = inpatient, short
4 = inpatient, medium or long but not chronic
5 = mixed type of care, short
6 = mixed type of care, medium or long but not chronic
7 = chronic
8 = not classified elsewhere

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact

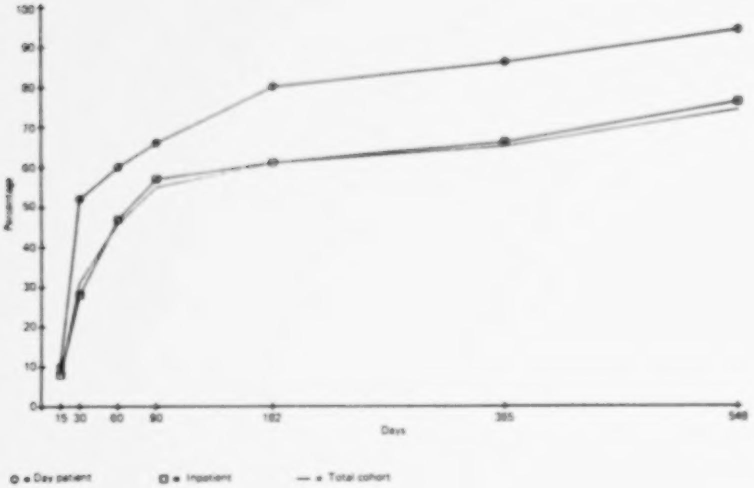


Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	0	157	43	3.2	32.9	60.4
16–30	49	56	79	11.0	17.6	21.5
31–60	107	4	26	11.0	2.2	2.1
61–90	97	0	10	8.6	1.5	1.7
91–182	77	1	12	4.3	0.8	0.5
183–365	39	8	31	2.8	0.8	1.7
366–548	35	4	30	1.3	1.4	1.2
549–730	29	2	20	1.0	0.6	0.8
First year	0	2	198	4.7	3.0	4.5
Second year	30	2	37	1.1	1.0	1.0
First and second year	0	0	200	2.9	2.0	2.8

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

El Ferrol, Spain

The pilot study area

General and geographical information

The pilot area occupies the northernmost corner of the province of La Coruña in Galicia and comprises 21 municipalities with a population of 239 547 according to the 1980 census (see Table 1). It covers an area of 1609 km², bordering on the Atlantic to the north and east and on the province of Lugo in the south. The area is predominantly hilly, furrowed by valleys that run down to the coast. The climate is rainy and humid, and temperatures are mild compared to the national average.

The population is unevenly distributed. The city of El Ferrol has a population of 93 262. Founded in the eighteenth century to serve as a defence against attacks from the sea, it later became the naval base for the maritime department of the Ministry of Defence in the Cantabrian region. The town is also the headquarters of a Justice Court and co-diocese with the city of Mondoñedo in nearby Lugo.

Its demographic growth and socioeconomic development have followed two different trends that have resulted in two broadly different types of population. As a military garrison, a very large part of the inhabitants consists of servicemen of all ranks and their families, while at the same time industrial growth around the shipyards has attracted a

Table 1. Population by sex and age, absolute and as a percentage of total population

Sex	Age in years					Not known	Total
	<15	15–24	25–44	45–64	≥65		
Absolute							
Males	27 682	23 122	29 199	26 005	11 195	1154	118 357
Females	26 494	17 892	29 057	28 706	18 466	575	121 190
Total	54 176	41 014	58 256	54 711	29 661	1729	239 547
Percentage							
Males	11.6	9.6	12.2	10.8	4.7	0.5	49.4
Females	11.1	7.5	12.1	12.0	7.7	0.2	50.6
Total	22.7	17.1	24.3	22.8	12.4	0.7	100.0

considerable influx of migrant workers from the countryside and from other provinces who, in the course of time, have settled permanently in the area.

Urbanization has taken place mainly around El Ferrol and the eight small nearby towns that, in 1971, constituted the Municipal Association of the River, a legal entity aiming to promote, develop and share common interests as opposed to individual ones. The nine towns, which retain their municipal identity, extend over 365 km^2 along both sides of the estuary. They account for three-quarters (180 293 people) of the total population of the pilot area, with a population density of 494 per km^2. Urban amenities, services and communications are adequate in this part of the pilot area. The rest of the area extends over the remaining 1235 km^2 and houses the remaining quarter (59 254 people) of the population, with a density of 47.9 per km^2. Puentes de Garcia Rodriguez, 38 km away in this vast rural area, has recently become a growing industrial centre because of its rich lignite deposits, chemical industries and electricity supply.

Despite recent improvements in the road system with the opening of the Atlantic motorway, transportation continues to be a serious problem for most of the isolated rural population.

Sociodemographic profile

Population by sex, age and marital status

Table 2 shows the distribution by sex (49.4 % males and 50.6 % females), age and marital status of the population in the pilot area in 1980. Close

Table 2. Population by sex, age and marital status

Sex	Age	Marital status				Total
		Single	Married	Widowed	Separated	
Males	<15	27 682				27 682
Females		26 494				26 494
Males	15–24	19 776	3 269	54	23	23 122
Females		11 735	6 003	75	79	17 892
Males	25–44	5 179	23 737	102	181	29 199
Females		3 540	24 732	543	242	29 057
Males	45–64	2 672	22 480	687	166	26 005
Females		4 285	20 595	3 563	263	28 706
Males	≥65	1 180	7 938	1 991	86	11 195
Females		4 810	5 538	7 990	128	18 466
Males	Not known	836	279	31	8	1 154
Females		261	242	67	5	575
Males	Total	57 325	57 703	2 865	464	118 357
Females		51 125	57 110	12 238	717	121 190

to a quarter (22.7%) of the population were below 15 years of age, and 12.4% over 65 years of age. Of the adult population (15 years or over), 29.3% were single, 0.6% separated, 8.1% widowed and 61.9% married. Of the younger adults (15–45 years of age), the majority were either married (58.1%) or single (40.5%). In the middle-aged group of 45–65 years, 78.7% were married. Of the older population (65 years and over), 45.4% were married and one-third (33.6%) widowed.

Employment and main economic activities

According to the 1980 population census, 68621 people were wage earners, 5887 were in military service, 9566 were unemployed (two-thirds of them without unemployment benefit) and 33993 were pensioners.

By far the main industry in the pilot area is shipbuilding and the subsidiary industries that have flourished around it. Other important industries are textiles, construction, electricity generation, chemicals and fishing.

The area suffers from increasing unemployment, like the rest of the country, but no reliable figures are available. Furthermore, the special characteristics of the rural areas, where so much of the work on the land and in cattle breeding by women of all ages and by the young is unpaid, make it difficult to estimate incomes and to interpret the results. According to a recent study,[a] these special characteristics gave Galicia in 1979 an economically active population of 41.6% of the total population, ahead of all the other Spanish regions and well above the national average, thus making both unemployment rate (4.4%) and the income per capita the lowest for the whole of Spain.

Population distribution and housing

Only about 20% of the pilot area, constituted by two small peninsulas on either side of the estuary, is urban in character, the remaining 80% being completely rural.

The occupancy rate for 1975 in the pilot area was 3.7 people per dwelling. Three-bedroomed flats in apartment blocks have become the usual type of housing in the urbanized areas, but the traditional farmhouse, whether modernized or otherwise, remains the usual dwelling elsewhere.

Electricity is available everywhere but only the urban areas have piped water. Private and public telephones are common in the urban areas but scarce in the rural ones.

Main ethnic and religious groups

Galicians belong to one of the white Indo-European ethnic groups of uncertain origin. The fair complexion and characteristic folklore that distinguish them from the other Iberian groups lend credibility to the theory that they are the descendents of pre-Roman groups of Celtic invaders.

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[a] Autonomias: tres Españas. *Perspectivas y mercado*, 4 (1980).

Galicians belong to the Roman Catholic Church, the social influence of which is shown in the way that communal life has always revolved around the parish. Various denominations of the Protestant Church have recently appeared in El Ferrol, and there is also an unintegrated minority group consisting of some 70 gipsy families, housed in five camps around the town. Their affairs are handled by a local secretariat that also provides them with separate schooling designed to bring about their integration.

Migration of young males to Latin America has been a feature of Galician population dynamics since the middle of the nineteenth century. It is estimated that one-third of all workers who migrated to Latin America between 1850 and 1910 were Galicians. These migratory movements decreased during the two world wars and the Spanish Civil War. From 1959 onwards, migration was diverted mainly to the EEC countries and to the wealthier industrial Basque country and Catalonia. In addition, there is a reverse trend in the pilot area, with an inflow of migrant workers from the country to the city, the impoverishing effect of which is seen in the vast, depopulated, economically depressed rural areas.

Indicators of social stability

In 1979 the police made 943 arrests, and there were seven homicides, 37 assaults and two cases of rape. There were also 728 reported cases of damage to property and 334 cars were stolen. Although there has been, according to police records, a sharp rise in violent behaviour and offences committed under the influence of drugs, the area does not have a high crime rate. According to the coroner's office, there were 25 suicides (10.4 per 100 000 population).

Health and welfare system

Health services

The situation of the health services in the pilot area is the same as in the rest of Spain. About 85% of the population is insured under the social security scheme, financed jointly by employers and employees together with a certain amount of state aid. Apart from the social security medical services, there are other public services funded by different means (public funds, service contracts, social welfare, etc.), all under the authority of the Ministry of Social Security.

The health services in the pilot area are as follows:

(*a*) the social security services:
—the *residencia sanitaria*, a 316-bed general hospital with medical and

surgical departments, all the major specialties and an outpatient department;
—four outpatient departments for general medicine and the various specialties;
—general practitioners and paediatricians in the rural areas;
(*b*) other public services:
—the hospital for respiratory diseases (200 beds);
—the anti-tuberculosis dispensary;
—the public health centre;
—the maritime medical service (Sanidad Exterior del Puerto);
—the Conjo Psychiatric Sanatorium outpatient clinics;
—the navy hospital, with 500 beds and an outpatient department financed by the Ministry of Defence;
(*c*) private services:
—a general hospital, with 257 beds and an outpatient department;
—the San Javier Sanatorium, with 32 beds and an outpatient department.

There are 306 general practitioners (1.29 per 1000 population), four psychiatrists in private practice, three psychiatric social workers and two public health nurses.

The general health situation

Mortality in general has declined markedly at all ages in Spain in recent years. This is reflected in the spectacular increase in life expectancy at birth shown in Table 3.

Table 3. Life expectancy at birth, 1950–1970

	Expectancy of life at birth	
Year	Males	Females
1950	58.76	63.50
1960	67.32	71.90
1970	68.90	74.41

Infant mortality has followed a similar course: the figures for Spain as a whole decreased from 43.9 deaths per 1000 live births in 1960 to 21.1 deaths per 1000 live births in 1970. Infant mortality in Galicia has, however, been consistently higher than this, a recent study[a] giving a figure of 19.5 deaths per 1000 children under one year of age, higher than that in all other regions (the national average is 15.1 per 1000 population).

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[a] *Anuario Banesto Mercado Español (1980)*. Madrid, Banco Español de Credito, 1982.

The five leading causes of death in the province of La Coruña were the same as those for the general population of Spain in 1976, as shown in Table 4.

Table 4. Five leading causes of death

Cause of death	Death rate per 100 000	
	Spain	La Coruña
Malignant tumours	148	168
Cerebrovascular diseases	132	154
Heart diseases	85	96
Ischaemic heart disease	80	75
Respiratory diseases	62	62

Mental health services

Psychiatric care in Spain is not fully integrated into any of the existing public health care systems. The social security scheme, under which the large majority of the nation's population are insured, covers all the medical and surgical services but pays little attention to mental disorders: the insured can be treated only as outpatients at the ambulatory facilities, since the social security inpatient services exclude those with psychiatric illness from their beds. To all intents and purposes, psychiatric inpatient care is still the responsibility of the central administration, and is provided at the provincial level by institutions financed by the local authorities. Among the most conspicuous shortcomings of this system are incompleteness of care, fragmentation of care, duplication of services and dispersal of resources.

Inpatient care is usually delivered by an old custodial asylum of the type that serves the province and often also an adjacent one by agreement between neighbouring local authorities. However, its operation and maintenance, staffing and degree of service development are left to the initiative and resources of the local authorities concerned. The nature and quality of care therefore differ from one province to another. The Conjo Psychiatric Sanatorium in Santiago de Compostela, which provides inpatient care to the province of La Coruña, is a case in point. In 1972, the hospital was divided up into three separate services corresponding to the division of the province into three sectors or catchment areas. A clinical team was then assigned to each service. This system, together with peripheral outpatient clinics operated from the sanatorium by their respective teams, was intended to replace purely intramural care by care in the community, both in order to provide continuity of care to discharged patients and to make it possible to assess new cases at an early stage. In this sense, each sector is a self-contained unit in terms of the total operation of the sanatorium, and in its catchment area co-exists with other public and private psychiatric services. Sector 3 of the Sanatorium is the El Ferrol pilot area.

Existing facilities

All but one of the mental health services inside the pilot area are located in El Ferrol, the exception being the fortnightly outpatient psychiatric clinic in Ortigueira, 60 km to the north. All the services are for outpatients; the navy hospital has an inpatient observation unit for psychiatric cases among navy personnel that cannot really be said to serve the area. There are two centres for the mentally retarded, one a day school, largely private, and the other a residential facility funded by the state. There are no psychiatric inpatient services inside the pilot area; as stated above, inpatient care for the pilot area is provided by the Conjo Sanatorium in Santiago, 100 km away. Sector 3 of the sanatorium serves the pilot area and has a total of 100 beds divided between three wards: 20 beds for acute admissions and two other wards of 50 and 30 beds for long-stay female and male patients respectively. Since this is the only public inpatient service available for the area, the bed/population ratio is 0.4 beds per 1000 people. People living in the pilot area can also make use of provincial facilities (outpatient and counselling only) located in the provincial capital La Coruña or in the university city of Santiago. Lack of integration and the absence of any coherent and coordinated mental health programme makes these services a jumble of disparate agencies funded from different sources and administratively independent of one another. The services located within and outside the pilot area and providing care to its population are shown in Tables 5 and 6 respectively.

Table 5. Services located within the pilot area and providing service to it

Service	Responsible authority	Type of service
Conjo Sanatorium (Sector 3) outpatient clinics	Conjo Sanatorium Public Foundation	Outpatient
Social security outpatient district services	Ministry of Social Security	Outpatient
Psychosocial centre	Private insurance fund	Guidance
C. Polo Centre for the mentally retarded	Ministry of Education	Residential care and special education
N.S. Chamorro School for the subnormal	Parents' Association	Day school and rehabilitation
Navy general hospital	Ministry of Defence	Inpatient observation unit for naval personnel only

Patient census and cohort study

Patient census

Census day for inpatients was 17 August 1980. All the patients from the pilot area who were occupying beds in the inpatient services of the area

Table 6. Services located outside the pilot area but providing service to it

Service	Responsible authority	Type of service
Conjo Psychiatric Sanatorium (Sector 3)	Conjo Sanatorium Public Foundation	Inpatient
Galicia Gral Hospital	Social security	Outpatient
SEREM	Social security	Rehabilitation
Diagnosis and guidance centre	Social security	Assessment
Drug addiction centre	Public health	Outpatient
Psychiatric and rest homes	Private	Inpatient and outpatient

of Sector 3 of the Conjo Sanatorium in Santiago on that day were counted. The outpatient census was carried out by spreading the count over a period of two weeks, close in time to the inpatient census day, so that all consecutive outpatients who contacted the two outpatient clinics in El Ferrol and Ortigueira between 15 and 30 June 1980 were counted.

The census covered 133 outpatients (70 males and 63 females) and 82 inpatients (41 males and 41 females). The number of patients in the census cannot be related to the total population as the services included in the study are not representative of the total area. Of the inpatients, 57 (69.5%) had been in hospital for two years or more; there were equal numbers of males and females, and 46 of them were single. From the census, it appears that the age of women on admission is tending to increase, while the opposite seems to be the case for males.

For the outpatients, the frequency of contacts during the year prior to the census showed very little difference between the sexes; 57 (42.9%) had only one or two contacts, while 52 (39%) had five or more contacts. Of these, 34 were single, 15 were married, two were widowed and one was separated.

The diagnostic distribution of both inpatients and outpatients by age and sex is shown in Table 7. For the outpatients, the largest diagnostic group was neurosis and personality disorders with 52 patients (39%), followed by alcohol and drug dependence with 26 patients and schizophrenia with 22 patients. For the inpatients, schizophrenia and paranoid states was by far the largest group with 51 patients (62%). Of the inpatients, 73% were 25–64 years of age and 24% were 65 years or over. The corresponding figures for the outpatients, 68% and 6% respectively, show that they were younger than the inpatients.

Description of cohort

For the cohort study 200 consecutive cases were collected who had entered the services, namely Conjo Sanatorium (Sector 3) and Conjo Sanatorium (Sector 3) outpatient clinics in El Ferrol and Ortigueira,

Table 7. Census of patients by age, sex, diagnosis and type of care

Diagnosis	Sex	Age in years and type of care[a]											
		<15		15–24		25–44		45–64		≥65		Total	
		IP	OP	IP	OP	IP	OP	IP	OP	IP	OP	IP	OP
Organic psychoses	M					1		1				2	
	F						1			1		1	1
Total						1	1	1		1		3	1
Schizophrenia and paranoid states	M				3	10	9	7	4	3		20	16
	F			1		3	2	15	3	12	1	31	6
Total				1	3	13	11	22	7	15	1	51	22
Affective psychoses	M					2	2	1			1	3	3
	F					1		1	1	3		5	1
Total						3	2	2	1	3	1	8	4
Other psychoses	M						2	1					3
	F						3	2					5
Total							5	3					8
Neurosis and personality disorders	M		2	1	4	2	6		3		1	3	16
	F				6		11		15		4		36
Total			2	1	10	2	17		18		5	3	52
Alcohol and drug dependence	M				2	1	9	3	10			4	21
	F				1		3		1				5
Total					3	1	12	3	11			4	26
Mental retardation	M				1	4	1	4	1			8	3
	F		1			1						1	1
Total			1		1	5	1	4	1			9	4
No psychiatric diagnosis	M		7					1			1	1	8
	F		3		4	1	1	1		1		3	8
Total			10		4	1	1	2		1	1	4	16
Total	M		9	1	10	20	29	17	19	3	3	41	70
	F		4	1	11	6	21	17	22	17	5	41	63
Grand total			13	2	21	26	50	34	41	20	8	82	133

[a] Types of care: IP = inpatient care; OP = outpatient care.

either as outpatients or inpatients. The cases were collected retrospectively, and the period of collection extended from 28 May 1979 to 31 March 1980. Patients below 15 years of age were excluded, as were those patients who attended only once. All the patients were from the pilot area, and none had had a contact with the services in the six months prior to entry. Each patient in the cohort was followed up for a period of two years, i.e. the follow-up was completed on 31 March 1982.

Tables C1 and C2 and Fig. C1 contain data on the age, sex, marital status and diagnosis of the patients in the cohort. There is a slight predominance of female patients, a feature common to all the cohorts in this study. By age, the largest percentages are in the young and middle-aged groups. The number of married patients is more than 1.5 times that of single patients. By diagnostic category, the largest group was that of neurosis and personality disorders with 111 patients (56.6%) and alcohol and drug dependence with 36 patients (18.4%). Among the other diagnostic categories, schizophrenia and paranoid states is represented only by 13 patients (6.6%).

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 196) (see also Fig. C1)

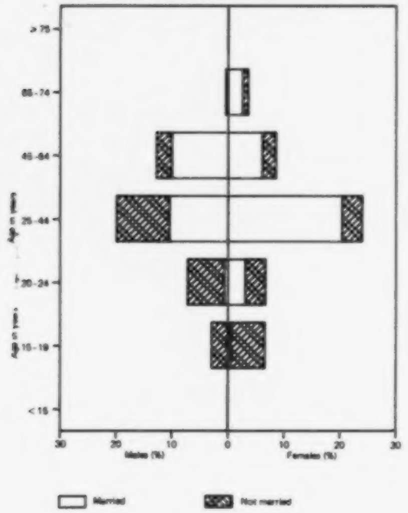
Marital status	Sex	Age in years								Not known	Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85		
Single	M		5.6	2.6	6.6	4.1					18.9
	F		6.1	3.6	3.6	2.5	1.0			0.5	17.3
Total			11.7	6.2	10.2	6.6	1.0			0.5	36.2
Married	M		0.5		14.3	7.7	1.5				24.0
	F		0.5	3.1	20.4	6.1	2.6				32.7
Total			1.0	3.1	34.7	13.8	4.1				56.6
Widowed	M					1.0					1.0
	F				1.0	2.6	0.5				4.1
Total					1.0	3.6	0.5				5.1
Divorced/separated	M				0.5		0.5				1.0
	F				1.0						1.0
Total					1.5		0.5				2.0
Total	M		6.1	2.6	21.4	12.8	2.0				44.9
	F		6.6	6.7	26.0	11.2	4.1			0.5	55.1
Grand total			12.7	9.3	47.4	24.0	6.1			0.5	100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	⩾65[a]	
Organic psychoses	M		1	4		5
	F		1		1	2
Total			2	4	1	7
Schizophrenia and paranoid states	M	1	5	1	1	8
	F	1		3	1	5
Total		2	5	4	2	13
Affective psychoses	M					
	F		1	1	2	4
Total			1	1	2	4
Other psychoses	M		4	1		5
	F		1	1		2
Total			5	2		7
Neurosis and personality disorders	M	10	13	8	1	32
	F	22	38	16	3	79
Total		32	51	24	4	111
Alcohol and drug dependence	M	2	17	10		29
	F		7			7
Total		2	24	10		36
Mental retardation	M	3		1	1	5
	F					
Total		3		1	1	5
Other[b]	M	1	2		1	4
	F	3	3	1	2	9
Total		4	5	1	3	13
No psychiatric diagnosis	M					
	F					
Total						
Not known	M					
	F					
Total						
Total	M	17	42	25	4	88
	F	26	51	22	9	108
Grand Total		43	93	47	13	196

[a] Including one whose age was unknown.
[b] Including eight for whom no diagnosis was made.

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 196) (See also Table C1)



Types of contact at date of first entry

Two main conclusions can be drawn (Tables C3–C5 and Fig. C2):

(*a*) outpatient contacts are by far the commonest;
(*b*) there is no day care as this type of service is not available.

Since 95% of the cohort (Tables C3–C5 and Fig. C2) entered as outpatients, any comparison with the census data must be with the outpatient census. This shows that the sex distribution and diagnostic groupings were very similar, while there were more patients in the younger age-groups (15–44 years) and fewer in the older ones (45+ years).

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	88	94.3	5.7
Females	108	95.4	4.6
Total	196	94.9	5.1

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years									Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	Not known	
Outpatient		25	17	87	46	11				186
Inpatient			1	6	1	1			1	10
Total		25	18	93	47	12			1	196

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis*										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	7	10	2	7	109	35	3	5	8		186
Inpatient		3	2		2	1	2				10
Total	7	13	4	7	111	36	5	5	8		196

* The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Types of contact during the first year

Table C6 shows that the greater part (56%) of the cohort received outpatient care less than once every two weeks for three months or more, the largest group in absolute numbers being the neurotic patients. It also shows that, apart from patients with schizophrenia and paranoid states, affective psychoses and mental retardation, the cohort mainly received outpatient care.

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that 88.8% of the cohort received outpatient care only and that, after six months, nearly half the patients (48%) had no further contact with the services, while after 1½ years 79% had left, the outpatients more rapidly than the inpatients. It should also be noted (Table C8) that only

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

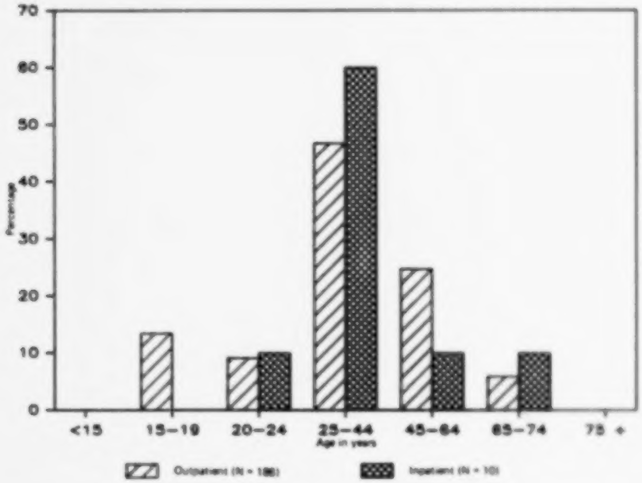


Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact*									N = 100%
	1	2	3	4	5	6	7	1–5	6–7	
Organic psychoses			29	71				100	0	7
Schizophrenia and paranoid states		8		31		8	54	38	62	13
Affective psychoses		25		25		50		50	50	4
Other psychoses			14	86				100	0	7
Neurosis and personality disorders	4	14	18	60		2	3	95	5	111
Alcohol and drug dependence	3	11	17	58		3	8	89	11	36
Mental retardation		40	20			20	20	60	40	5
Other		20	60	20				100	0	5
No psychiatric diagnosis	13	25		63				100	0	8
Total	3	13	17	56		4	7	89	11	196

* Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days*							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	14	29	29	29	29	43	71	7
Schizophrenia and paranoid states	0	0	8	8	15	31	54	13
Affective psychoses	0	25	50	50	100	100	100	4
Other psychoses	0	14	14	14	43	57	71	7
Neurosis and personality disorders	6	20	30	34	51	68	82	111
Alcohol and drug dependence	3	11	19	28	44	67	86	36
Mental retardation	0	40	80	80	80	80	80	5
Other	20	40	80	80	80	80	80	5
No psychiatric diagnosis	13	13	25	25	38	38	50	8
Total	6	18	29	33	48	64	79	196

* The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentage of N in each diagnostic category

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	28.6	71.4							7
Schizophrenia and paranoid states	15.4	15.4			15.4	38.5	15.5		13
Affective psychoses	50.0			50.0					4
Other psychoses	57.1	42.9							7
Neurosis and personality disorders	62.2	33.3	0.9	1.8		0.9	0.9		111
Alcohol and drug dependence	61.1	27.8		2.8	5.6	2.8			36
Mental retardation	60.0		20.0			20.0			5
Other	80.0	20.0							5
No psychiatric diagnosis	62.5	37.5							8
Total	57.7	31.1	1.0	2.6	2.0	4.1	1.5		196

* Episodes of care:

1 = **Outpatient, short**

Some outpatient contacts, but no "long episode", i.e. one comprising six contacts or more.

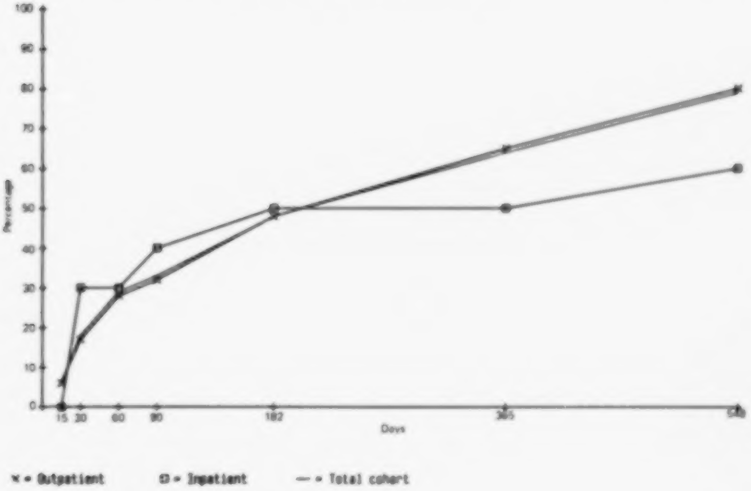
2 = **Outpatient, medium or long but not chronic**

One or two long outpatient episodes and some isolated outpatient contacts. The different types of long episodes are characterized by the following averages:

	Type 1	*Type 2*
Number of events	7	15
Length	227 days	473 days
Average interval between two events	35 days	33 days
Maximum interval	64 days	71 days
Concentration	0.34	0.29

3 = **Inpatient, short**
One "stay" in hospital, of less than 24 days.
4 = **Inpatient, medium or long but not chronic**
One stay in hospital, of between 25 and 80 days, or
several stays in hospital, of less than 80 days.
5 = **Mixed types of care, short**
Stays in hospital and outpatient short episodes. The length of each stay does not exceed 80 days.
6 = **Mixed types of care, medium or long but not chronic**
Stays in hospital and long outpatient episodes. The length of the stays is between 25 and 150 days. The "duration" of the episodes does not exceed 210 days.
7 = **Chronic**
Stays in hospital and/or outpatient episodes: the total care duration is more than 500 days.
8 = **Not classified elsewhere**
No patient.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



1.5% of the patients became chronic users, namely two schizophrenic patients and one neurotic patient.

Caseload features

Table C9 shows clearly that the burden on the services is heaviest within the first two months following the entry of the patient, declines thereafter, but then increases again at three to six months for the outpatients, measured in absolute numbers. Measured in number of contacts per week and number of occupied beds per week per 100 patients, there is a steady decrease.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients	
	1	2	1 + 2	Outpatient	Beds
0–15	180	10	6	62.8	6.8
16–30	104	14	1	28.1	7.1
31–60	105	11	2	15.6	5.3
61–90	66	7	1	9.2	2.8
91–182	104	4	1	7.8	1.8
183–365	82	2	7	4.9	1.0
336–548	55	2	3	2.9	1.0
549–730	38	1	2	2.1	0.8
First year	175	4	17	9.9	2.2
Second year	64	2	4	2.5	0.9
First and second year	174	2	20	6.2	1.5

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

General remarks on the cohort analysis

The tables and figures faithfully reflect the types of patients that use the services, the way they use them, and the pattern of care delivered by them in a way that is highly relevant to the structure of the services, as well as to their purposes and functions. It should be pointed out, however, that the information is representative of the services but not of the area, since there are other psychiatric services in it which did not participate in the study. For this reason and because of the exclusion from the cohort of those patients who attended only once, a high proportion of psychoneurotic patients have probably been missed.

Leganes, Spain

The pilot study area

General and geographical information

Until 1960, Leganes was a village with a population of approximately 6000 south-west of Madrid. Since then, it has grown into a completely urbanized suburb with a population of over 160 000. According to the 1976 population census figures, which are the most recent available, the population at that time was 155 893 (Table 1). The reason for this enormous growth is the industrial development which has drawn people from other parts of Spain. Leganes and other surrounding towns which have undergone similar development now form a nucleus of 500 000 inhabitants concentrated in very densely populated urban centres. The mental health services in Leganes also serve other towns, such as Alcorcon, Mostoles and Fuenlabrada, as well as some residents of Madrid itself.

Madrid is the cultural, administrative and commercial capital and centre of the country with a population of about three million. It is surrounded by several small suburban towns which have a similar number of inhabitants.

Communications between Madrid and the area are excellent; both by train and bus, services being operated on different routes from Madrid and other nearby towns. The railway system links Madrid to the area with commuter trains, stopping at several stations along their route.

The climate is continental with temperatures ranging from 10°C in winter to 30°C in summer.

Sociodemographic profile

Population by sex, age and marital status

Table 1 shows the distribution of the pilot area population in 1976. At that time, 50.5% were men and 49.5% were women. About half of the population (45.3%) was under 15 years of age and 2% was over 65 years of age.

Of the adult population above 15 years of age, 26% were single, 70% married, 3.5% widowed and 0.3% separated. The majority of the adults between 15 and 45 years were either single (32.2%) or married (67.3%). In the 45–65-year age-group, 88% were married. No figures are given

Table 1. Population by sex, age and marital status, 1976 census

Sex	Age	Marital status				Total
		Single	Married	Widowed	Separated	
Males	<15	37 031				37 031
Females		33 650				33 650
Total		70 681				70 681
Males	15–24	11 107	94	1		11 202
Females		3 484	7 191	1	3	10 679
Total		14 591	7 285	2	3	21 881
Males	25–44	4 803	16 536	57	25	21 421
Females		1 886	20 637	139	77	22 739
Total		6 689	37 173	196	102	44 160
Males	45–64	364	7 334	164	24	7 886
Females		434	6 750	852	86	8 122
Total		798	14 084	1 016	110	16 008
Males	≥65	86	767	309	8	1 170
Females		92	277	1 591	33	1 993
Total		178	1 044	1 900	41	3 163
Males	Total	53 391	24 731	531	57	78 710
Females		39 546	34 855	2 583	199	77 183
Grand total		92 937	59 586	3 114	256	155 893

for the divorced, as divorce was not legally permitted in Spain at the time.

Employment and main economic activities

Information on the present situation is not available, but the 1976 census showed that 97% of males between the ages of 15 and 65 years belonged to the economically active population; 81% were employed and 15% unemployed. For females, the corresponding figures were 26%, 10% and 16% respectively. Although unemployment has increased in Spain over the last decade, it has until recently remained relatively low in the area, as compared with the rest of the country, but is now steadily increasing.

The area includes all types of industry, most being located in an industrial estate, the most important being food processing, chemicals, textiles, metallurgy and furniture. Of those employed, roughly 75% work in these industries, the remaining 25% in public services.

Population distribution and housing

The area is now highly urban with only 0.1% of the population living in small rural enclaves.

Since this is a relatively newly urbanized area, houses are of a good standard, all recently built, and have all modern amenities. The houses are built along wide, open streets with flower beds. In general, overcrowding does not exist and the average number of rooms per house or flat is three to four with two to three people per room.

Main ethnic and religious groups

During the last decade, migrants from other parts of Spain have progressively joined the population of the area. As in the rest of the country, the population is predominantly Catholic. There are, however, also a few minority religious groups, such as Mormons, Jehova's Witnesses, etc.

Indicators of social stability

Social instability has increased during the last few years in the pilot study area. A separate police station was created in 1979 to deal with all crime and delinquency.

A number of factors have influenced the increase in criminality, and especially in juvenile delinquency, among which the following may be mentioned:

—broken homes and violence within the family and against children;
—unemployment among young people who are unable to find a first job and are therefore unable to become economically independent.

According to police records, the crimes committed in 1979 were as follows:

—juvenile delinquency: 105 young people under 16 years of age were arrested;
—drug and alcohol abuse: nine cases;
—violent and other offences: 1361 cases, of which 1216 were robberies, 79 were armed robberies, 16 were committed by sick people under treatment, four were sexual offences, 41 were frauds and five were violence within the family.

Out of 504 persons arrested, only 24 were females.

Health and welfare system

Health services

The health services in the pilot study area are similar to those in the rest of the province of Madrid and in Spain in general. All of them are operated by the social welfare system and are paid for by public funds. There are a few private clinics that are generally used for emergencies.

The attention given to mental health is not the same as that given to health in general. There are outpatient services, but the social welfare system does not have any psychiatric hospitals.

In 1979, the number of general practitioners was high as compared with the rate for Spain as a whole (1.75 per 1000 inhabitants in 1975). This is due to the sociodemographic and geographical characteristics of the area.

There are no general hospitals in the area, although a few are now being built in the surrounding areas.

The general health situation

Because of the high proportion of young people among the population of the area, the health situation is comparatively good, with a mortality level lower than that for Madrid and Spain. The leading causes of death are cancer and cardiovascular diseases and, for infants, enteritis. (See also the chapter on El Ferrol, p. 437.)

Mental health services

Some general information has already been given in the area description for El Ferrol.

None of the available inpatient services in the pilot area is reserved solely for the area itself; they are all used by people from Madrid, the province and even Spain in general. Equally, some patients belonging to the pilot study area are taken to other services outside the area. During the last few years, the tendency has been to try to define the area and its jurisdiction more precisely as far as patients are concerned.

Outpatient services and day services are more readily available for the area itself, and most of the patients using these services come from sectors belonging to the area.

Outpatient and inpatient services are paid for by the patients themselves. Social welfare is provided free of charge if the National Health Bureau so decides. Fees are either paid monthly by patients whose stays extend over long periods or at each treatment session by outpatients.

The general pattern of care for the patients from the area is a short stay as inpatients and follow-up treatment as outpatients. A few years ago, this led to the creation of a small 18-bed centre to deal with psychiatric emergencies.

There are no psychiatrists in private practice in the area itself, but many in Madrid.

Existing facilities

The services in the area include the following.

(1) Two inpatient services for adult patients, taking patients both from the area itself and from outside it. These services operate independently of one another but have a joint administration. As mentioned above, there are no clearly defined catchment areas for the inpatient services, so that, although Leganes has a high number of psychiatric beds per unit population as compared with the rest of the country, it is not possible to relate these beds to the population of the area.
(2) One recently created emergency admission unit, which serves only the area itself.
(3) Four outpatient clinics serving both the area itself (sectors I and II) and the surrounding areas (sectors III and IV).

Some of the units have special sections for children and others for geriatric patients. Social services are available to the patients in all the services. The number of children seen in the outpatient clinics is high, but none of them is reserved solely for this patient group, the way that the clinics deal with children depending mainly on the teams working in them.

The facilities and their functions

Santa Isabel Hospital

The hospital provides both inpatient and outpatient care for patients both from within and from outside the area, and day care for patients from the area.

It has a population of chronic patients from the entire country and a small number of new cases from the pilot study area. There are 400 beds in separate male and female units providing ample space and also some individual rooms. Although the building is more than 100 years old, it is well maintained. The male side is divided into two sections, section B admitting older patients and section A younger ones and patients staying only for short periods of time. Many patients are chronic cases. For all patients, there is an active therapeutic programme which is also part of the teaching programme. The hospital is an open institution for the majority of patients. The female unit also has numerous chronic patients, some of whom work in town.

All admissions are screened in the outpatient unit. Since 1970, voluntary admission has been possible.

The Santa Isabel Hospital is part of a teaching complex. All types of psychiatric patients are admitted, including alcoholics and epileptics. The female unit has a separate subunit for elderly people. In the rehabilitation unit, both sexes share work and recreational activities. A major problem is the return of former patients, often for social rather than medical reasons.

The day unit functions as part of the other units, has only one room specifically assigned to it, and has only part-time staff.

Like all other services in the area, Santa Isabel is under the authority of the National Health Institutional Administration of the Ministry of Health and Social Security.

Santa Teresa Hospital

This hospital provides both inpatient and outpatient care, predominantly for patients living in the area. The hospital is housed in a modern three-storey building 1.5 km from Santa Isabel. It has a capacity of 100 beds with an occupancy rate of 50%. Men and women share the same wards. A higher proportion of acute cases are admitted than in Santa Isabel and, in general, the patients are younger. Santa Teresa is an open-door hospital.

Day hospital

The day care services are situated in the Santa Isabel complex and served by staff from the female unit. Only very limited day care is available.

Outpatient services

In addition to the outpatient services at the Santa Isabel and Santa Teresa hospitals, there are two other outpatient clinics:

(1) The Social Welfare Clinic (Casa de la Cultura), which is served by the staff of the female unit of Santa Isabel. Most of the patients seen are children and people with family problems (40%), those with neurosis and personality disorders and a few with psychoses. The team makes home visits and collaborates with the local educational authorities.

(2) The Social Welfare Clinic Service of Zarzaquemada, established more recently, which is situated in one of the newer parts of the area, has a similar patient composition and also collaborates with the local authorities. It is staffed by the Santa Isabel male unit.

Emergency admission unit

The emergency admission unit has 18 beds and began operation a few years ago. All patients admitted come from the area.

Patient census and cohort study

Patient census

Census day for inpatients was 14 January 1980 and the census included all inpatients and day patients occupying a bed or a place in the services on that day. The outpatient census covered all patients in contact with the four services between 14 and 27 January 1980.

A total of 293 inpatients (170 males and 123 females) and 307 outpatients (134 males and 173 females) were counted. For the reasons mentioned above, the number of inpatients cannot be related to the total population, and the number of outpatients only to a certain extent. If all the outpatients were from the area, the rate per 1000 population would be 2.0 (1.7 for males and 2.2 for females).

Of the inpatients, the majority were males (58 %), of whom 88 % were single. Of the females, 66 % were single. For both sexes, the age-group 45–64 years was the largest (46 % of the males and 41 % of the females). The majority (83 %) had been in hospital for two years or more (85 % of the males and 80 % of the females).

Of the outpatients, the majority were females (56 %), of whom 57 % were married, whereas only 26 % of the males were married. The largest age-group was 25–44 years (41 %), of whom 68 % were females. During the year prior to the census, 133 (43 %) had had five or more contacts, there were nearly equal numbers of single males and married females, and 102 (41 males and 61 females) (33 %) had had one contact only.

Table 2 shows that, of the inpatients, 138 (47 %) were schizophrenics, with nearly twice as many males as females, while of the outpatients, 140 (46 %) were diagnosed as neurotics, with twice as many females as males. There were no inpatients under 15 years of age since inpatient care for this age-group is not available in the area.

Table 2. Census of patients by age, sex, diagnosis and types of care

Diagnosis	Sex	Age in years and type of care[a]											
		< 15		15–24		25–44		45–64		≥ 65		Total	
		IP	OP	IP	OP	IP	OP	IP	OP	IP	OP	IP	OP
Organic psychoses	M		1			1		6		2		9	1
	F					2		7		5		14	
Total			1			3		13		7		23	1
Schizophrenia and paranoid states	M			5	7	27	8	39	3	19		90	18
	F			2	1	10	4	18	3	18	1	48	9
Total				7	8	37	12	57	6	37	1	138	27
Affective psychoses	M			2	1	1	5	2		6		11	6
	F				1	1	7	6	1	11	3	18	12
Total				2	2	2	12	8	1	17	3	29	18
Other psychoses	M					2		2				4	
	F			1		3	1	3				7	1
Total				1		5	1	5				11	1

Table 2. (*Contd.*)

Diagnosis	Sex	Age in years and type of care*											
		< 15		15–24		25–44		45–64		≥ 65		Total	
		IP	OP	IP	OP	IP	OP	IP	OP	IP	OP	IP	OP
Neurosis and personality disorders	M		15	1	7	2	17	3	8	1		7	47
	F		6		6	3	61	1	20	1		5	93
Total			21	1	13	5	78	4	28	2		12	140
Alcohol and drug dependence	M					4	5	2	1	1		7	6
	F					1	1					1	1
Total						5	6	2	1	1		8	7
Mental retardation	M												
	F												
Total													
No psychiatric diagnosis	M												
	F												
Total													
Other	M		32		2	15	1	23	1	3		41	36
	F		20		2	7	9	16	3	4		27	34
Total			52		4	22	10	39	4	7		68	70
Unknown	M		5				4			1	11	1	20
	F		1		3	1	3		2	2	14	3	23
Total			6		3	1	7		2	3	25	4	43
Total	M		53	8	17	52	40	77	13	33	11	170	134
	F		27	3	13	28	86	51	29	41	18	123	173
Grand total			80	11	30	80	126	128	42	74	29	293	307

* IP = inpatient care; OP = outpatient care.

Description of cohort

For the cohort study, 200 consecutive patients entering the Santa Isabel Hospital as inpatients or the two outpatient clinics serving sectors I and II in Leganes, were collected between 1 February 1979 and 10 January 1980. All the patients were inhabitants of the area and none had had contact with the services for at least six months prior to their entry.

In order to exclude patients not residing in the area, two social security neuropsychiatric outpatient departments in the area and a psychiatric hospital outside the area, which admits the largest number of patients from the province, did not participate in the study. The study may therefore have missed some patients and/or contacts. For the outpatients, these would be mainly neurotic cases and patients with family problems and, for the hospital, patients with serious psychoses, neuroses, acute intoxications or organic problems who had already been admitted once or twice.

Tables C1 and C2 and Fig. C1 contain data on the age, sex, marital status and diagnosis of the patients in the cohort. There was a predominance (69%) of female as compared with male patients, and 77% of the cohort were married (62% of the males and 83% of the females). By far the largest age-group was that aged 25–44 years, which accounted for 64% of the cohort (58% of the males and 68% of the females); only 3% of the cohort were 65 years or over, as compared with

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 196) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M	1.5	6.6	1.5	1.5					11.2
	F	0.5	5.1	1.0	0.5	0.5				7.7
Total		2.0	11.7	2.6	2.0	0.5				18.9
Married	M				16.3	2.0	1.0			19.4
	F			2.0	45.4	9.2	0.5			57.1
Total				2.0	61.7	11.2	1.5			76.5
Widowed	M					0.5				0.5
	F					2.0	1.5			3.6
Total						2.6	1.5			4.1
Divorced/ separated	M									
	F									
Total										
Not known	M									
	F				0.5					0.5
Total					0.5					0.5
Total	M	1.5	6.6	1.5	17.9	2.6	1.0			31.1
	F	0.5	5.1	3.0	46.6	11.7	2.0			68.9
Grand total		2.0	11.7	4.6	64.3	14.3	3.1			100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M				2	2
	F	1	1	2	1	5
Total		1	1	2	3	7
Schizophrenia and paranoid states	M	1				1
	F					
Total	1	1				1
Affective psychoses	M		1	1		2
	F		2	2	1	5
Total			3	3	1	7
Other psychoses	M					
	F	1	1			2
Total		1	1			2
Neurosis and personality disorders	M	10	25	3		38
	F	10	77	16	2	105
Total		20	102	19	2	143
Alcohol and drug dependence	M		5	1		6
	F					
Total			5	1		6
Mental retardation	M	2				2
	F	1				1
Total		3				3
Other	M	4	2			6
	F	3	6	3		12
Total		7	8	3		18
No psychiatric diagnosis	M					
	F					
Total						
Not known	M	2	2			4
	F	1	4			5
Total		3	6			9
Total	M	19	35	5	2	61
	F	17	91	23	4	135
Grand total		36	126	28	6	196

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 196) (See also Table C1)

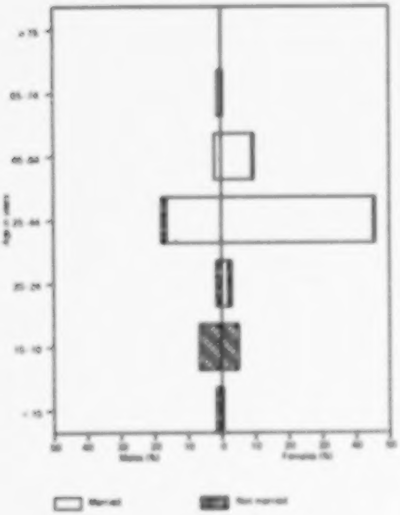


Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	61	96.7	3.3
Females	135	95.6	4.4
Total	196	96.4	3.6

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	<15	15-19	20-24	25-44	45-64	65-74	75-84	>85	
Outpatient	4	21	8	123	27	6			189
Inpatient		2	1	3	1				7
Total	4	23	9	126	28	6			196

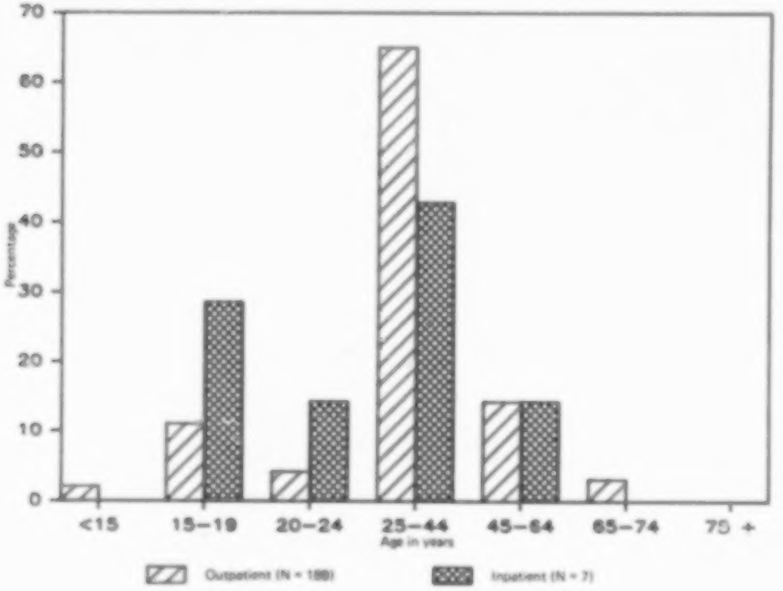
Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a] 1	2	3	4	5	6	7	8	9	10	Total
Outpatient	6		5		143	5	3	18		9	189
Inpatient	1	1	2	2		1					7
Total	7	1	7	2	143	6	3	18		9	196

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

2% of the population. The largest diagnostic group was that of patients with neurosis or personality disorders (143 or 73%; 38 or 62% of the males and 105 or 78% of the females). The number of patients (six) with alcohol and drug dependence was surprisingly low.

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



Types of contact at date of first entry

A large majority of the cohort (96%) entered as outpatients (Tables C3–C5 and Fig. C2). This may be explained by the priority given to this type of care within the services and the fact that the emergency admission unit, which currently receives two-thirds of the emergency or seriously ill patients, was not in operation at the time of the study. When the cohort was compared with the outpatient census, the female predominance was seen to be greater in the cohort, relatively more were married, the cohort was slightly younger, and had a much higher percentage of neurosis and personality disorders.

Types of contact during the first year

Table C6 shows that 96% of the cohort received outpatient care only. Only six patients (3%) had one outpatient contact only, while 41% had an outpatient contact every two weeks for less than three months, and 37% had an outpatient contact less than once every two weeks for three months or more.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact*									N = 100%
	1	2	3	4	5	6	7	1–5	6–7	
Organic psychoses		14	29	43		14		86	14	7
Schizophrenia and paranoid states						100		0	100	1
Affective psychoses			43	29			29	71	29	7
Other psychoses						50	50	0	100	2
Neurosis and personality disorders	1	12	44	41	2			100	0	143
Alcohol and drug dependence		50		33		17		83	17	6
Mental retardation	33	67						100	0	3
Other	6	17	44	33				100	0	18
No psychiatric diagnosis										
Not known	11	11	56	22				100	0	9
Total	3	14	41	37	2	2	2	96	4	196

* Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that 80.1% of the cohort had short, outpatient care, i.e. less than six

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	14	28	28	43	57	71	71	7
Schizophrenia and paranoid states	0	0	0	100	100	100	100	1
Affective psychoses	14	28	43	43	57	71	71	7
Other psychoses	50	50	50	50	50	50	50	2
Neurosis and personality disorders	34	38	48	56	67	75	87	143
Alcohol and drug dependence	17	17	67	67	83	83	83	6
Mental retardation	33	33	100	100	100	100	100	3
Other	39	45	62	67	72	72	94	18
No psychiatric diagnosis								
Not known	56	67	78	78	89	100	100	9
Total	34	39	51	58	69	76	87	196

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	85.7						14.3		7
Schizophrenia and paranoid states						100.0			1
Affective psychoses	57.1	14.3				28.6			7
Other psychoses			50.0				50.0		2
Neurosis and personality disorders	81.1	18.2					0.7		143
Alcohol and drug dependence	66.7	16.7	16.7						6
Mental retardation	100.0								3
Other	83.3	16.7							18
No psychiatric diagnosis									
Not known	100.0								9
Total	80.1	15.8	1.0			1.5	1.5		196

[a] Episodes of care:

1 = Outpatient, short

Some outpatient contacts, but no "long episode", i.e. one comprising six contacts or more.

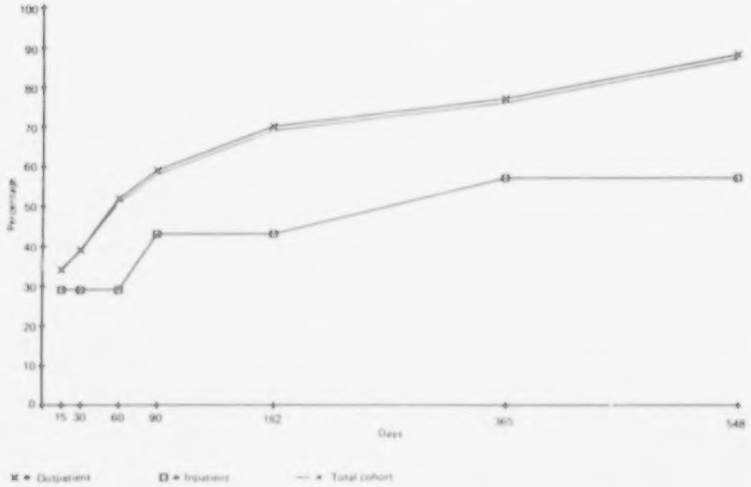
2 = Outpatient, medium or long but not chronic

One long episode and some isolated outpatient contacts. Two types of long episodes are characterized by the following averages:

	Type 1	*Type 2*
Number of events	8	8
Length	276 days	128 days
Average interval between two events	38 days	19 days
Maximum interval	74 days	37 days
Concentration	0.41	0.34

3 = **Inpatient, short**
One "stay" in hospital, of less than 3 days.
4 = **Inpatient, medium or long but not chronic**
No patient.
5 = **Mixed types of care, short**
No patient.
6 = **Mixed types of care, medium or long but not chronic**
One or more stays in hospital and/or day hospital and/or outpatient contacts. The length of the stays does not exceed 60 days. There is no long episode.
7 = **Chronic**
More than 400 days in hospital or day hospital.
8 = **Not classified elsewhere**
No patient.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



contacts, and 95.6% had outpatient care only. Only three patients (1.5%) became chronic users (one with organic psychosis, one with other psychosis, and one with neurosis and personality disorders). After 60 days, 100 patients (51%) had no further contact with the services, and after 18 months 87% had left, the outpatients leaving more quickly than the inpatients.

Caseload features

Table C9 shows clearly that the burden on the services is heaviest within the first two weeks following the entry of the patient, declines thereafter but then increases again between one and two months after entry. Measured in number of contacts per week and number of beds occupied per week per 100 patients, the burden on the services is negligible after the first three months after entry of a patient.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	189	7		72.4	0.4	2.2
16–30	49	4		14.1	0.5	1.5
31–60	68	4		11.6	0.5	1.5
61–90	44	3	1	13.3	0.2	1.8
91–182	58	1	1	4.5		0.7
183–365	53	1	2	2.3	0.4	0.4
366–548	35	2	1	1.3	0.5	0.7
549–730	23	2	1	0.9	0.5	1.0
First year	189	4	3	7.3	0.3	0.8
Second year	44	2	1	1.1	0.5	0.9
First and second year	188	4	4	4.2	0.4	0.8

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Geneva, Switzerland

The pilot study area

General and geographical information

The pilot study area comprised the entire Canton of Geneva (area 246 km^2), which is very highly urbanized. The City of Geneva accounts for almost half (44.4%) of the total population (340 654 in 1979) and the urban zone for 96% of it. The population density is typical of modern built-up areas, decreasing from 10 784 per km^2 at the centre to 50–500 per km^2 in the rural sector (an average of 1385 per km^2 for the area as a whole). The rate of population increase (5.3% between 1970 and 1980) has fallen off sharply in the last five years, and is now about 1%. Moreover, for a number of years there has been an absolute decrease in the urban population, with corresponding increases in the surrounding communes.

The area has a highly developed public transport system and there are no particular communications problems. One special feature of the area is the large proportion of foreigners.

Sociodemographic profile

Population

In 1979, as already mentioned, the population of Geneva was 340 654 (total for Switzerland: 6 314 200) and, as shown in Table 1, was made up of 46.6% of males and 53.4% of females; 17.5% were aged 0–14 years and 13.3% 65 years or over; 58.2% were married in the group aged 15 years or over; 44.6% of women and 14.7% of men aged 65 years or over were widowed.

Employment and main economic activities

Information on the economically active population is shown in Table 2, the unemployed, registered according to occupation, being included; the figures are estimates.

As regards the economic activities carried on, the Canton of Geneva is characterized by a predominance of the tertiary sector (trade, banks, insurance, transport, hotels, administration); 76.4% of the economically active population work in these fields (65.2% in 1970) and this rate is

Table 1. Population by sex, age and marital status, 1979

Sex	Age	Marital status				Total
		Single	Married	Widowed	Separated/ divorced	
Males	<15	30444				30444
Females		29176				29176
Males	15–24	22002	1209	2	19	23232
Females		22225	3210	8	91	25534
Males	25–44	11232	37092	115	2980	51419
Females		11277	40972	523	4610	57382
Males	45–64	2795	31276	733	2435	37239
Females		4976	27967	3763	4384	41090
Males	≥65	1065	12216	2428	817	16526
Females		3953	9526	12771	2362	28612
Males	Total	67538	81793	3278	6251	158860
Females		71607	81675	17065	11447	181794

Source: *Annuaire statistique genevois*. Geneva, 1980.

Table 2. Economically active population by sex and age group

Age group (years)	Economically active population (in percentages)	
	Males	Females
15–24	53.1	49.2
25–44	94.0	61.9
45–64	95.4	51.8
65–69	53.2	20.5
≥70	19.1	7.5
Total	63.0	38.2

Source: La population active à Genève, 1980. *Aspects statistiques No. 24*. Geneva, Service cantonal de Statistiques, 1981.

the highest in Switzerland. The percentage of persons engaged in agriculture is correspondingly very low (1.3% in 1980 and 1.6% in 1970). The secondary sector (industry, construction, arts and crafts) is also under-represented (22.3% in 1980; 33.2% in 1970) in relation to the situation in Switzerland generally.

There is a large proportion of foreigners among the resident population (33.4% in 1979; 33.7% in 1973). As far as the economically active population is concerned, the percentage is even higher (36.1% in

1980; 36.6% in 1970) and to this group must be added a further 20 000 foreigners who work in Geneva while living in France (16 000 in 1970).

The countries of origin of the foreign residents are as follows: Italy (31 249), Spain (19 558), France (18 297), the United States (6863), Asian countries (5389), the United Kingdom (5113), the Federal Republic of Germany (4152), African countries (3952), Portugal (1858), stateless (1849), the USSR (1008), others (7793).

The distribution of the economically active foreign population by administrative status is as follows: permanent residence permit: 38 716; annual residence permit: 12 657; seasonal workers: 5030; residents of the frontier zone: 20 298.

The foreign workers are employed mainly in industry, construction, trade and the hotel business. The staff of international organizations make up a further category. Currently, 38.3% of foreign workers are employed in the tertiary sector, 54.4% in the secondary sector and 7.2% in the primary sector.

The economic recession has mainly affected the foreign workers; for this reason, the proportion of such workers within the total population of the Canton has fallen in recent years.

In 1979, the unemployment rate was 0.9%.

Population distribution and housing

As already mentioned, the City of Geneva accounts for 44.4% of the population of the pilot study area. The average number of persons per household is 2.47, the average number of rooms per housing unit is 2.76 (50.1% 1–2 room units, 38.9% 3–4 room units and 11% 5–6 room units) and the average number of persons per room is 0.87. Almost all the dwellings have inside running water (99.8%) and are connected to the gas or electricity supply (100%).

Main ethnic and religious groups

Foreigners make up a high proportion of the resident population. The major religious groups are the same as in the 1973 census, namely Catholic, Protestant and Jewish.

Indicators of social stability

The suicide rate has risen considerably from 1.1 per 10 000 population in 1971 to 2.8 per 10 000 (2.4 per 10 000 for Switzerland as a whole in 1978).

In 1979, 3176 persons were sentenced for various offences and 1726 were in prison (there were 60 000 convictions in Switzerland in 1979). Some information on selected crimes in Geneva and in Switzerland is given in Table 3.

Table 3. Crime in Geneva and Switzerland, 1979

Crime	Geneva 1979	Switzerland 1979
Juvenile delinquency	272	1480
Illegal possession of drugs	136	2110
Drinking and driving	474	9416
Armed robbery (Art. 139 of the Swiss Penal Code)	23	338
Violent assault (Art. 122 of the Swiss Penal Code)	1	18
Rape	2	46
Sexual offences against children	7	590
Homicide	5	46

Source: Les condamnations pénales en Suisse 1979. *Statistiques fédérales*. 1981. *Annuaire statistique genevois*. Geneva, 1979.

Health and welfare system

Health services

The Geneva area has a cantonal hospital (1756 beds), a geriatric hospital (308 beds) and a psychiatric clinic (550 beds), all state-operated. The budget is state-funded and part of the costs are met by contributions from the patients' health and accident insurance. There are 14 private clinics and convalescent homes, and two private on-call services providing 24-hour emergency care. There is also an on-call service organized by the Geneva physicians as well as one for psychiatric care staffed by the state health institutions.

Psychiatric disorders are covered by health insurance in the same way as somatic ones.

In 1979, the health staff situation was as shown in Table 4.

Table 4. Health staff in Geneva, 1979

Profession	Number	Population per professional
Physicians	896	380
Dentists	343	993
Pharmacists	245	1390
Nurses	1458	234
Midwives	81	13

The general health situation

The numerous services of different types as well as the very large number of private physicians seem adequate to meet the health needs of the population. There has been a definite reduction in the rates of perinatal and infant mortality, as shown in Table 5.

Table 5. Perinatal and infant mortality, 1970–1979

Indicator	1979	1970
Perinatal mortality per 1000	9.7	11.5
Infant mortality per 1000	8.1	16.0
Perinatal deaths	35	53
Infant deaths	29	73

Life expectancy at age 1 is 71.6 years for men and 78.6 years for women.

The five leading causes of death, which are the same for Switzerland as a whole, are:

—diseases of the circulatory system;
—neoplasms;
—diseases of the respiratory system;
—violent death (accidents, suicides);
—diseases of the digestive system.

Mental health services

It will be remembered that the Geneva pilot study area is essentially urban in character and that the data collection zone corresponds to that covered by the health services. In view of the small area involved and the fact that the sector system has been adopted for the provision of psychiatric services, the distances between the facilities and patients' homes are small (20 km maximum) as are the distances between each facility (10 km maximum).

The services listed in Table 6 are part of an administratively integrated psychiatric network making up the Department of Psychiatry under the Department of Social Welfare and Public Health.

The years shown in connection with certain services in Table 6 refer to the dates on which they were established in the case of those set up after the creation of the University Psychosocial Centre in 1963.

Only institutions for adults provide specialized psychiatric services; they operate exclusively under the authority of the Department of Psychiatry and give priority to ambulatory care.

For children, adolescents and the elderly, other state or private institutions provide psychiatric care as part of their functions. For instance, the School Health Service under the Department of Education undertakes evaluation, education and psychological counselling alongside its work of case-finding and prevention in schools. In the same way the Geriatric Hospital and the Consultation and Information Centre for the Elderly deal with psychiatric problems as well as providing general medical services. There are also a number of private

Table 6. Psychiatric services in the Geneva pilot study area

Child psychiatry	Adolescent psychiatry	Adult psychiatry	Psychogeriatrics	Psychiatric services at the Cantonal Hospital	Alcohol dependence	Mental retardation
INPATIENT SERVICES						
Psychiatric Clinic (Bel-Air)						
Unit in the paediatric clinic		Intensive care units	Inpatient unit			Day centre
		Short-stay inpatient unit				
		Medium-term and long-term inpatient units				
EXTRAMURAL SERVICES						
University Psychosocial Centre						
Child psychiatry unit	Outpatient units (1971)	Outpatient units (1963)	Information and Consultation Centre for the Elderly	Psychiatry and Medical psychology unit	Outpatient unit (Révilliod Centre)	Outpatient units (1967)

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Table 6. (*Contd.*)

Child psychiatry	Adolescent psychiatry	Adult psychiatry	Psychogeriatrics	Psychiatric services at the Cantonal Hospital	Alcohol dependence	Mental retardation
Kindergartens	"Drop-in" centre (drug dependents and other cases)	Day hospitals (1970)		Outpatient units on-call service	Day hospital (1977)	Observation unit
		Therapy workshops (1964)				Day hospital
Domiciliary care and day centres		Occupational workshops			Social club	Domiciliary care team (1972)
Day hospital (1967)		Gevray Therapy Hostel (1976)		Psychosomatic gynaecology and sexology unit		Workshops Club
		Geneva physicians' on-call service				Rehabilitation Hostel (1974)
						Home and rehabilitation La Combe Medico-educational Centre (150 places) (1980)

welfare institutions, especially in the area of the rehabilitation of those with sensory, motor or cognitive handicaps.

In addition, there are 68 practising psychiatrists in Geneva.

For purposes of the provision of psychiatric services to adults, the City and Canton of Geneva are divided into three sectors, corresponding to particular districts. Sector services are provided both in the psychiatric clinic and at district level.

Extramural facilities

Sector services

These comprise:

(*a*) Outpatient units staffed by medicosocial teams, who in 1979 handled 26 000 consultations (2500 patients) and provided emergency domiciliary care in Geneva and the surrounding area.

(*b*) Day centres (40 places).

(*c*) Therapy workshops (76 places) and occupational workshops (47 places).

Non-sector services

These consist of:

(*a*) The psychiatry and medical psychology unit of the Cantonal Hospital, which in 1979 handled 5300 consultations (1600 patients).

(*b*) The psychosomatic gynaecology and sexology unit of the Cantonal Hospital, which handled 2000 consultations (370 patients).

In addition, there are sheltered hostels and a number of private homes, long-stay hostels and social clubs.

Inpatient facilities

In 1979, these facilities had a total of 550 beds and provided care for 2000 patients. There are also occupational therapy workshops, sports centres, and rehabilitation centres. The average length of stay is 90 days.

The hospital facilities also function as day or night hospitals, thus facilitating the transition from inpatient to extramural care.

Existing facilities

In 1979, the staffing of the 12 extramural facilities was as follows:

—*University Psychosocial Centre* (124.5 posts): 34 psychiatrists, 22 medical consultants, 12.75 social workers, 4 sociologists, 2.75 psychologists, 1 nurse, 1 sociotherapist, 0.75 physiotherapist, 2 auxiliaries, 24.75 secretaries and 13.5 others;

—*drug dependence unit* (13 posts): 4 psychiatrists, 1.75 psychologists, 1 sociologist, 0.75 nurse, 3 social workers and 2.5 others;

—*Révilliod Centre* (12.75 posts): 2 psychiatrists, 1.75 nurses, 3.5 social workers and 5.5 others;
—*day centres* (14 posts): 6 psychiatrists, 1.5 psychologists, 1.5 sociotherapists/occupational therapists, 1 social worker and 4 others;
—*occupational workshops* (7.5 posts): 5 instructors and 2.5 others;
—*pre-employment workshops* (8.5 posts): 5 instructors and 3.5 others;
—*Gevray Therapy Hostel* (6 posts): 4 nurse/instructors and 2 others;
—*day hospital* (4 posts): 2 nurses and 2 others;
—*social club* (0.5 posts): 0.5 organizers;
—*psychiatry and medical psychology unit of the Cantonal Hospital* (11 posts): 8.5 psychiatrists and 2.5 secretaries;
—*psychosomatic gynaecology and sexology unit of the Cantonal Hospital* (5.5 posts): 3 psychiatrists, 0.5 psychotherapists and 2 secretaries;
—*Bel-Air Psychiatric Clinic* (946.5 posts): 59 psychiatrists, 5 medical consultants, 2 psychologists, 12.25 social workers, 257.5 nurses, 116.5 hospital aides, 73 student nurses, 106.75 cleaners and housekeeping staff, 25.75 occupational therapists, 5 sociotherapists, 2.25 physiotherapists and 281.5 others including 20 administrative staff, 20.25 secretaries and 17 auxiliaries.

Patient census and cohort study

Data were collected only in extramural and inpatient facilities for adults aged 15–65 years.

Patient census

The census was conducted on 1 June 1981 among patients at the Psychiatric Clinic and throughout the period 1–5 June 1981 among outpatients and day patients. It was not possible to comply with all the criteria.

The census population, as shown in Table 7, consisted of 399 outpatients, 20 day patients and 174 patients in the Psychiatric Clinic. There were more men than women in the alcohol dependence clinic and more women than men in the sector 1 outpatient service.

Description of cohort

The cohort was collected from the participating services in 1978. It consisted of consecutive cases entering the services and having had no contact with them for at least six months. Men and women were represented more or less equally in the cohort of 782 patients; Table C1 and Fig. C1 show that 49.2% were aged between 25 and 44 years. The small number of patients under 15 years and over 65 years was the consequence of the way that the services are organized, since there are specialized facilities for adolescents and the elderly that were not involved in the construction of the cohort.

Table 7. Patient census, 1981

Sex	Outpatients					Day patients and inpatients			Total
	Sector services			Non-sector services		Sector services			
	Sector 1	Sector 2	Sector 3	Psychiatry and medical psychology unit of the Cantonal Hospital	Alcohol-dependence clinic	Day centres		Psychiatric Clinic	
						1	2		
Males	55	44	32	17	50	7	2	85	292
Females	72	42	40	26	21	11	—	89	301
Total	127	86	72	43	71	18	2	174	593

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 782) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M		2.9	6.6	9.5	2.8				21.9
	F		3.1	5.1	7.4	2.2		0.1		17.9
Total			6.0	11.8	16.9	5.0		0.1		39.8
Married	M			0.6	10.4	10.0	0.4			21.4
	F		0.1	0.9	12.9	8.4				22.4
Total			0.1	1.5	23.3	18.4	0.4			44.0
Widowed	M						0.1			0.1
	F				0.1	0.9				1.0
Total					0.1	0.9	0.1			1.2
Divorced/ separated	M			0.1	2.7	1.8				4.6
	F			0.3	5.1	3.2				8.6
Total				0.4	7.8	5.0				13.2
Not known	M			0.1	0.5	0.4				1.0
	F				0.5	0.3		0.1		0.9
Total				0.1	1.0	0.6		0.1		1.9
Total	M		2.9	7.5	23.0	15.0	0.5			49.0
	F		3.2	6.3	26.1	15.0		0.3		50.8
Grand total			6.1	13.8	49.1	29.9	0.5	0.3		100.0

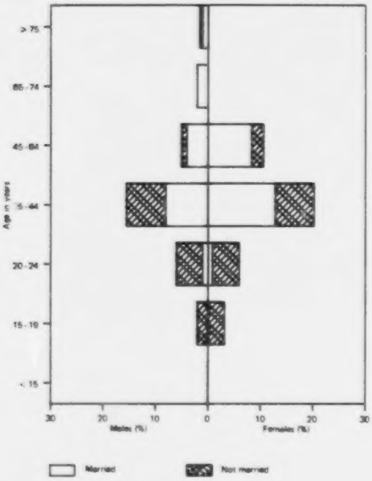
There were more single men (21.9%) than single women (17.9%), and more women than men among the divorced group (8.6% and 4.6%). Table C2 shows that 54.6% of patients were included in the diagnostic group neurosis and personality disorders. A statistical test showed that the occurrence of these conditions was not sex-related, but age-related: the 25–44-year age-group was the most seriously affected.

The figure of 9.8% for alcohol and drug dependence is certainly too low, since a number of specialized facilities for alcohol- and drug-dependent persons were not included in the study. This applies particularly to the figure of 2.7% for patients under 25 years.

The figure of 0.6% for mental retardation is also too low, since there is a specialized service for patients in this diagnostic group.

The relatively high figure of 16.1% for other psychiatric diagnoses results from the use of a triaxial classification in which the second axis (symptomatic diagnoses) was reclassified in this group.

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 782)
(See also Table C1)



Types of contact at date of entry

For nearly all the age-groups, five times more outpatients entered the cohort than inpatients. The few day patients entering the cohort (more men than women) had generally been referred by a private medical practitioner (see Tables C3 and C4). Table C5 shows similar percentages of outpatient entries for the different diagnostic groups; this was due to the existence of an on-call service through which some patients have to pass before being admitted to hospital.

Types of contact during the first year

The first vertical column of Table C6 shows that 27% of the patients in the cohort had only one outpatient contact; such patients either came for check-ups or interrupted treatment prematurely. These patients also accounted for the largest number of "other" diagnoses, most being symptomatic diagnoses made by clinicians who were unable to decide on a specific diagnosis or who did not have the patient under observation for sufficiently long to make such a diagnosis.

Percentage of patients and types of contact during the follow-up episodes of care

About 20% of patients were still receiving treatment after 18 months (Table C7). The drop-out rate was greater among outpatients; 39% of

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M		3	7		10
	F			3		3
Total			3	10		13
Schizophrenia and paranoid states	M	7	25	11		43
	F	4	28	16	1	49
Total		11	53	27	1	92
Affective psychoses	M	1	4	10	1	16
	F	2	6	10		18
Total		3	10	20	1	34
Other psychoses	M	1	1	1		3
	F	2	1			3
Total		3	2	1		6
Neurosis and personality disorders	M	46	105	49	2	202
	F	31	130	64		225
Total		77	235	113	3	428
Alcohol and drug dependence	M	11	20	16		47
	F	10	8	11	1	30
Total		21	28	27	1	77
Mental retardation	M		1	1		2
	F		3			3
Total			4	1		5
Other	M	16	21	22	1	60
	F	25	28	13		66
Total		41	50	35	1	127
No psychiatric diagnosis	M					
	F					
Total						
Total	M	82	180	117	4	383
	F	74	204	117	2	397
Grand total		156	384	234	6	780

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry		
		Outpatient	Inpatient	Day patient
Males	383	77.0	14.6	8.4
Females	397	80.6	16.1	3.3
Total	782	78.9	15.3	5.8

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	< 15	15–19	20–24	25–44	45–64	65–74	75–84	≥ 85	
Outpatient		42	89	300	180	4	2		617
Inpatient		4	14	63	39				120
Day patient		2	5	22	15	1			45
Total		48	108	385	234	5	2		782

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

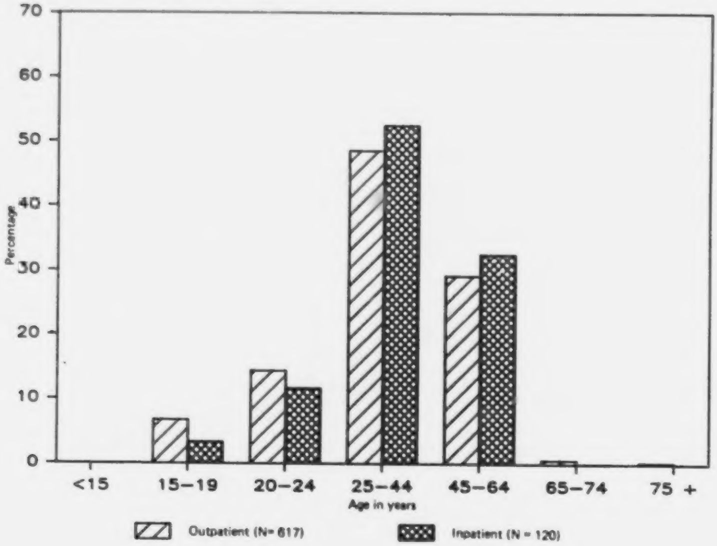


Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a] 1	2	3	4	5	6	7	8	9	10	Total
Outpatient	6	72	22	5	333	51	5	123			617
Inpatient	6	19	11	1	71	12					120
Day patient	1	1	1		24	14		4			45
Total	13	92	34	6	428	77	5	127			782

[a] The following diagnostic groups have been used

1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a] 1	2	3	4	5	6[b]	7[c]	1–5	6–7	N = 100%
Organic psychoses	8			8		69	15	16	84	13
Schizophrenia and paranoid states	15	2	9	17	2	23	32	45	55	92
Affective psychoses	6		18	9		32	35	33	67	34
Other psychoses	17	17	33			17	17	67	33	6
Neurosis and personality disorders	23	2	17	12	7	24	15	61	39	428
Alcohol and drug dependence	26	1	13	5		39	16	45	55	77
Mental retardation	20		20	40			20	80	20	5
Other	60	5	13	10	1	4	7	89	11	127
No psychiatric diagnosis										
Total	27	2	15	12	4	23	17	73	27	782

[a] Types of contact:

1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 41 day patients who have not been inpatients.

[c] Including 17 day patients who have not been inpatients.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	0	8	23	23	23	38	54	13
Schizophrenia and paranoid states	16	23	30	35	41	50	61	92
Affective psychoses	9	18	35	41	47	59	68	34
Other psychoses	17	33	33	50	50	50	67	6
Neurosis and personality disorders	32	39	47	52	60	68	80	428
Alcohol and drug dependence	40	45	52	53	54	68	78	77
Mental retardation	20	40	40	40	40	40	80	5
Other	65	72	73	76	83	90	96	127
No psychiatric diagnosis								
Total	35	42	49	53	60	68	79	782

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	23.1		38.5	23.1			15.4		13
Schizophrenia and paranoid states	30.4	16.3	17.4	19.6		6.5	9.8		92
Affective psychoses	26.5	11.8	20.6	20.6		8.8	8.8	2.9	34
Other psychoses	50.0		16.7	16.7		16.7			6
Neurosis and personality disorders	44.6	21.3	18.7	6.5		5.4	3.3	0.2	428
Alcohol and drug dependence	50.6	15.6	22.1	2.6		6.5	2.6		77
Mental retardation	80.0		20.0						5
Other	86.6	5.5	3.1	2.4		2.4			127
No psychiatric diagnosis									
Total	49.5	16.5	16.8	7.9		5.2	3.8	0.3	782

[a] Episodes of care:

1 = **Outpatient, short**
One or more outpatient episodes, comprising seven contacts; *or*
One stay at day hospital, of less then 28 days.

2 = **Outpatient, medium or long but not chronic**
One stay at day hospital, of between 28 and 130 days; *or*
One long outpatient episode. Four different types of long episodes are characterized by the following averages:

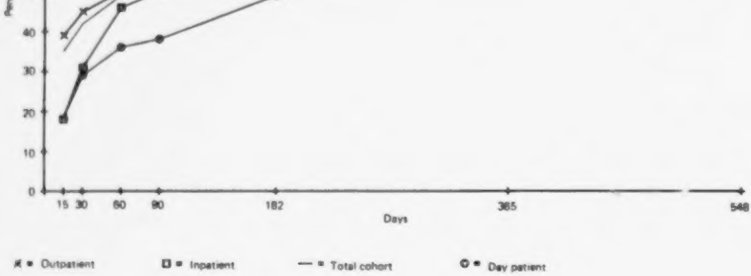
	Type 1	*Type 2*	*Type 3*	*Type 4*
Number of events	15	11	8	55
Length	261 days	102 days	164 days	581 days
Average interval between two events	20 days	11 days	25 days	13 days
Maximum interval	62 days	28 days	64 days	56 days
Concentration	0.34	0.38	0.54	0.33

or
Two long episodes or more, from types 1, 2 and 3 above.

3 = **Inpatient, short**
One stay at hospital, of less than 45 days; *or*
Two or more stays at hospital, of less than 30 days
with some isolated outpatient contacts
4 = **Inpatient, medium or long but not chronic**
One stay at hospital, or between 45 and 400 days, *or*
Two or more stays at hospital, at least one of between 45 and 100 days
with some isolated outpatient contacts
5 = **Mixed types of care, short**
No patient.
6 = **Mixed types of care, medium or long but not chronic**
Stays in hospital, and/or day hospital, and/or long outpatient episodes. The total duration of care is between 200 and 400 days.
7 = **Chronic**
Stays in hospital and/or day hospital and/or long outpatient episodes. The total duration of care is more than 400 days.
8 = **Not classified elsewhere**
The last contact at hospital is an admission during the two-year follow-up period. The date of this admission is not close to the boundaries of the observation period.

patients whose first contact was with an outpatient service discontinued treatment after 15 days or less (27% had only one contact), as compared with 18% of inpatients (Fig. C3). Patients in the diagnostic group neurosis and personality disorders discontinued treatment quite rapidly, although less so than those with alcohol and drug dependence. Those with "other" diagnoses interrupted their treatment soonest, the majority after only one outpatient contact (see Table C6). Table C8 shows a relatively higher number of chronic cases among patients with psychoses. There was a difference in type of contact between the patients

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



with psychoses and those with neurosis and personality disorders, but among the former there was no major difference between the two main diagnoses (schizophrenia and paranoid states and affective psychoses). The number of patients with neurosis and personality disorders hospitalized was relatively high, since such cases probably accounted for most of the admissions.

Caseload features

Table C9 shows that after three months the number of hospital beds occupied per 100 patients was more or less stable. However, after two weeks, the number of outpatient contacts per week per 100 patients fell sharply as did the number of outpatients.

Table C9. Case load features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:*			Contacts per week per 100 patients		
	1	2	1+2	Outpatient	Day patient	Beds
0–15	528	145	109	61.2	4.5	19.2
16–30	149	162	13	16.1	3.2	13.9
31–60	142	127	26	10.1	2.9	7.8
61–90	120	90	16	8.2	2.4	4.5
91–182	131	62	33	5.2	1.5	2.9
183–365	116	49	55	4.7	1.1	2.4
366–548	110	39	49	3.7	0.6	2.4
549–730	87	41	34	3.4	0.3	2.2
First year	472	105	205	8.3	1.7	4.3
Second year	128	48	71	3.6	0.5	2.3
First and second year	454	91	237	6.0	1.1	3.3

* These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1+2 = mixed care.

Aberdeen, United Kingdom

The pilot study area

General and geographical information

The pilot study area comprises the major portion (74%) of the Grampian administrative area in north-east Scotland. It is an extensive area (6473 km^2), containing the local government districts of Aberdeen city, Banff and Buchan, Gordon, Kincardine and Deeside with a usually resident population of 382 740 at the 1981 census, i.e. 83% of the population of the Grampian region. Half the population is concentrated in the urban Aberdeen city district, whereas the other districts are largely rural, with a few small towns, of which only Fraserburgh and Peterhead have populations exceeding 10 000.

The land mass juts out into the North Sea, its shape resembling that of a clenched fist. In the east, it consists of an undulating, fertile, low plateau with a rocky coastline containing few inlets or harbours. To the west, the land rises to the foothills of the Grampian mountain range with extensive conifer forests and moorlands and a few pockets of cultivated land. In the south-west, there is the main block of the Grampians with numerous peaks over 1000 m in height. The main rivers, Dee, Don, Ythan and Deveron, flow into the North Sea, the first two at Aberdeen. All are noted for salmon fishing.

The climate is of an "east coast" type, with cold, comparatively dry winters and warm, though rarely hot, summers with frequent sea breezes. Sub-Arctic conditions can occur in the mountainous areas during the winter, with numerous roads blocked by snow. Similarly, the winter seas around the coasts can be hazardous for shipping and oil rigs.

The ancient university city of Aberdeen dominates the region, and is the major administrative, commercial, cultural, educational and medical centre for north-east Scotland. It is also the main focus for the rail and road transport networks, and an important sea-port, and possesses an important international airport and heliport which have expanded considerably since the offshore oil boom began in the 1970s. Despite these facilities, Grampian remains relatively isolated from other centres of population in Scotland. Some outlying rural areas are linked by buses to Aberdeen, but services may be infrequent and journeys tend to be expensive and time-consuming and hinder the development of outpatient and day patient care for the rural population.

Sociodemographic profile

Population by sex, age and marital status

Data on the population of the area by sex, age and marital status are shown in Tables 1 and 2. The population is composed of 48.6% of males and 51.4% of females, 20.9% being under 15 years of age and 14.5% aged 65 years and over. Of the age-group 15 years and over, 62.7% are married, 26.1% single, 8.8% widowed and 2.4% divorced. A major disparity between the sexes concerns widowhood; 13.5% of the females over 40 years were widowed as compared with 3.7% of the

Table 1. Population by sex and age, absolute and as a percentage of total population, 1981

Sex	Age in years					Total
	< 15	15–24	25–44	45–64	≥ 65	
Absolute						
Males	41 297	1 200	52 585	39 332	21 693	186 107
Females	39 004	30 277	50 857	42 844	33 651	196 633
Total	80 301	61 477	103 442	82 176	55 344	382 740
Percentage						
Males	10.8	8.1	13.7	10.3	5.7	48.6
Females	10.2	7.9	13.3	11.2	8.8	51.4
Total	21.0	16.0	27.0	21.5	14.5	100.0

Table 2. Population by sex, age and marital status, 1981

Sex	Age	Marital status				Total
		Single	Married	Widowed	Divorced	
Males	< 15	41 297				41 297
Females		39 004				39 004
Males	15–24	26 621	4 468	9	102	31 200
Females		22 206	7 854	36	181	30 277
Males	25–44	9 100	41 553	146	1 786	52 585
Females		4 765	43 339	507	2 246	50 857
Males	45–64	3 723	33 550	1 081	978	39 332
Females		4 255	32 398	4 794	1 397	42 844
Males	≥65	2 265	15 161	4 082	185	21 693
Females		5 935	11 370	15 980	366	33 651
Males	Total	83 006	94 732	5 318	3 051	186 107
Females		76 165	94 961	21 317	4 190	196 633

males. Of the younger age-group (15–45 years), 38% were single and 58.9% were married. Of the middle-aged group (45–65 years), 80.3% were married, whereas in the older population, i.e. 65 years and over, only 47.9% were married and 36.2% were widowed. Almost four times as many widows as widowers were surviving in the elderly group.

Employment and main economic activities

Census information for 1981 shows 92.2% of the males in the 16–65-year age-group as being economically active compared with 58.5% of the females in the same group. Of the 65 years and over age-group, only 8.5% were considered as economically active.

Unemployment in the 16–65-year age-group in the pilot study area was 6.2% overall, with 7% of the males of the economically active group being without work. While the proportion of unemployed has risen considerably since 1978, it is still only about half the Scottish figure of about 14%. In April 1978, unemployment in the Grampian region as a whole was 4.4% overall as compared with a figure for Scotland of 8.2% and a United Kingdom figure of 5.9%. Unemployment is somewhat higher in the younger age-group (16–24 years): 10.3% for males and 8.2% for females.

The traditional economy of the Grampian region, of which the pilot study area forms the major part, was formerly based on industries utilizing the local natural resources of land and sea, with an emphasis on quality products. These long-established industries comprise agriculture and forestry, fishing, food processing, quarrying and the distillation of whisky, in addition to paper-making and the manufacture of textiles and knitwear, light engineering and shipbuilding. The city of Aberdeen serves as the administrative, commercial and educational centre for the region, providing such services as banking, insurance and legal advice.

In most of these industries, there has for a variety of reasons been a steady decline, except surprisingly in shipbuilding, which has remained buoyant by concentrating on relatively small, specialized ships. However, in 1969, the first commercial oilfield was discovered in the United Kingdom sector of the North Sea, and this has had a major impact on the economy of the region. By the end of 1981, 19 oilfields were producing nearly two million barrels of oil a day. The Grampian region has become the major growth area of the United Kingdom, with Aberdeen the oil capital of Europe. The offshore oil and gas industry created some 35000 new jobs in 500 new, wholly oil-related firms by the end of 1981. About half the oil-related workers are offshore, and only a quarter actually live in the region. Aberdeen and Peterhead harbours have been extended and form the major bases for the fleets of supply boats for the oil rigs. Aberdeen harbour handled 250 supply vessel movements in 1969, but this had increased to 4000 in 1978.

A considerable infrastructure of warehouses, engineering repair shops and supply and catering services has come into being and new houses and hotels have had to be built. Major construction projects in the region have involved the building of the North Sea gas terminal at St Fergus near Peterhead, gas and oil pipelines and a new power station at Peterhead.

The airport at Aberdeen has been developed so that it now caters for 1.4 million passengers a year, as compared with 150 000 in 1970. Europe's largest commercial heliport adjoins the airport and is used by helicopters ferrying many of the 12 000 offshore workers to the oil rigs, some of which are over 300 km away.

Average earnings in the region have increased from 11% below the national figure in 1968 to 6% above it in 1978. Nevertheless, that section of the population and those industries not concerned with oil have encountered additional problems created by the success of the oil industry. Such industries find it more difficult to compete for skilled personnel, and workers have to face the increased cost of living and prices for property without compensating high wages. It is sometimes difficult to attract workers, e.g. nurses, to such a high-cost area from other parts of the United Kingdom.

Population distribution and housing

The pilot study area is dominated by the city of Aberdeen, which has 52% of the total population. A substantial increase in population has taken place in the districts around Aberdeen, notably in Gordon, where the population increased by 37.5% from 1971 to 1981, and in Kincardine and Deeside, where it increased by 24.6% over the same period. These increases are mainly due to new housing developments for people working in the oil-related industries.

In general, the standard of housing in the area is quite good. There has been extensive building of new houses in the last decade and very active slum clearance in the city of Aberdeen. Piped water and electricity are available to all houses. North Sea gas is available in a number of areas.

Tables 3 and 4 show that there is a large proportion of pensioners living alone, both in the city and in the rural areas, and that only a small minority of the population are affected by overcrowding and lack a bath and inside toilet.

It should be noted that, in the rural areas, a higher proportion of households own a car than in the urban centre. Possession of a car is

Table 3. Usually resident population by type of housing, 1981

District	Percentage in communal establishments	Percentage living alone	Percentage of pensioners living alone
Aberdeen city	2.1	9.0	32.4
Banff and Buchan	2.0	6.6	27.9
Gordon	1.5	5.7	25.8
Kincardine and Deeside	1.9	6.5	27.0

Table 4. Usually resident population by housing amenities, 1981

District	Total number of households	Percentage of households: not in self-contained accommodation	Percentage of households: with more than one person per room	Percentage of households: lacking or sharing use of bath	Percentage of households: without a car
Aberdeen city	75 076	0.6	12.9	4.0	47.3
Banff and Buchan	27 378	0.4	13.1	3.3	36.3
Gordon	21 053	0.3	10.6	3.3	20.4
Kincardine and Deeside	14 172	0.5	8.6	2.9	24.2

much more important as a means of transportation in remote rural areas than in the city.

Main ethnic and religious groups

The area has a predominantly Scottish Protestant population and is probably more homogeneous in this respect than most major centres of population in the United Kingdom.

Offshore oil industries have attracted large numbers of newcomers to the area, both from the rest of Scotland and from the United Kingdom, as well as from abroad (about 4%). Most of the newcomers have well-paid jobs in the oil-related industries and are given some degree of priority in respect of housing or are able to purchase private dwellings despite high property prices.

People from the United States, the Netherlands and France make up a high proportion of the foreign immigrants. These newcomers have been absorbed relatively easily into the area.

Many of the workers on the offshore rigs who come from other parts of the United Kingdom, or even France or Spain, return there one or two weeks after a spell of offshore duty rather than live in Aberdeen.

Indicators of social stability

Despite the recent influx of large numbers of workers in the oil-related and construction industries from other parts of the United Kingdom and from abroad, social stability in the area has not been greatly affected. Most of the new workers are affluent. The Grampian region, being relatively isolated from the rest of Scotland, has retained a strong local culture which has largely absorbed the newcomers and the new pattern of life associated with a booming oil industry. Relatively high employment and lack of major social deprivation has tended to promote stable life patterns.

A number of indicators suggest that the social stability of Grampian compares favourably with that of Scotland as a whole, which tends to be dominated by the economically depressed Strathclyde region. Between 1973 and 1978, the overall suicide figures show a slight improvement in the pilot study area and the Grampian region, though this is due to reduced female suicide and conceals a slight increase in male rates, whereas figures for Scotland remained more or less unchanged (see Table 5).

Table 5. Suicide rates per 100 000 population

Year	Pilot study area			Grampian region			Scotland		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1973	19	18	37	21	20	41	253	183	436
	10.1	8.7	9.4	9.8	8.5	9.2	10.2	6.8	8.4
1978	22	9	31	26	10	36	274	165	439
	12.0	4.5	8.1	11.6	4.2	7.8	11.0	6.2	8.5

There was an increase in referrals for the treatment of alcoholism and drug dependence, with a trend for a larger number of females to have alcohol problems. This accords with the general impression of clinicians in the area that alcohol and drug dependence problems are generally increasing, though this can also be seen as part of a national trend.

Health and welfare system

Health services

A large district hospital complex (Aberdeen Royal Infirmary) situated in Aberdeen, about 1 km from the Royal Cornhill Psychiatric Hospital, serves as the main medical centre for the Grampian region, although there are a number of subsidiary hospitals in the city of Aberdeen and in the major towns. A full range of medical and surgical expertise is available, and a university medical school with associated laboratories adjoins the Royal Infirmary.

Over 99 % of the population are registered with a general practitioner, who has on average 1900 patients on his list. Private practice is comparatively unimportant, only one small private hospital carrying out surgical operations in the city. Most patients are treated in National Health Service facilities and are paid for by public funds derived from taxes and national insurance contributions. Nevertheless, the advent of the oil industry in Aberdeen has led to a slight increase in private practice, mainly related to the employees of the oil firms.

The general health situation

Scotland as a whole has a bad record for the prevalence of cardiac and respiratory diseases. The Grampian region and the pilot study area compare favourably with Scotland in physical health, and especially in infant mortality, where a steady improvement has taken place. Infant mortality (number of deaths in the first year of life per 1000 live births) in the Grampian region was 11.5 in 1978 and 8.6 in 1980. For the whole of Scotland, the corresponding figures were 12.9 and 12.1 respectively. Life expectancy at one year of age, in 1976–1978, was 69.4 years for males and 75.6 years for females in the Grampian region and 68.2 years for males and 74.3 years for females in the whole of Scotland. Information on the five leading causes of death in the pilot study area and in Scotland is given in Table 6.

Table 6. Five leading causes of death for the pilot study area and Scotland, crude rates per 100 000 population, 1978

Cause of death	Pilot study area			Scotland		
	Males	Females	Total	Males	Females	Total
Ischaemic heart disease	402	312	355	434	329	379
Malignant neoplasms	284	246	264	287	245	265
Cerebrovascular disease	130	205	169	141	209	176
Pneumonia	48	68	58	61	77	69
Bronchitis, emphysema and asthma	33	15	23	66	26	45

Mental health services

As neither the description of the available mental health services nor the patient census was repeated for the Aberdeen pilot study area, the following information is taken from the 1980 study by Giel & Hannibal on mental health services in pilot study areas.[a] The planned reorganization of the mental health services to form three catchment areas, each served comprehensively by a multidisciplinary team, mentioned in that study, has actually taken place, but detailed information is not available.

Health care is provided almost exclusively by the National Health Service. There are no private psychiatrists in practice in the area; treatment and consultation are to all intents and purposes free, outpatient transport costs can be refunded, and there are no substantial financial barriers to psychiatric assessment and care.

There is no essential difference between the mode of payment for treatment of psychiatric disorders as compared with that for physical disorders. A great deal of emphasis is still placed on inpatient investigation and treatment for physical disorders. The National Health Service is currently under Government pressure to reduce its expenditure, and ways are being sought to increase outpatient treatment instead of more expensive inpatient care, e.g. for certain types of surgery.

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[a] *Mental health services in pilot study areas. Phases I and II.* Copenhagen, WHO Regional Office for Europe, 1980 (unpublished document ICP/MNH 007).

Outpatient treatment forms a large component of psychiatric care in the pilot study area, although this is more difficult for patients from the rural areas. A number of psychiatric clinics are now being held in general practitioner health centres, both in Aberdeen and in surrounding towns such as Peterhead and Inverurie.

Psychiatric day patient treatment is also relatively more difficult for rural patients because of distance and the time required for travelling.

Expansion of psychiatric community services is being held back by the need to contain or reduce National Health Service expenditure.

Apart from the main hospital for the adult mentally retarded, which is about 89 km from the town, all services are based on the main inpatient units grouped in and around Aberdeen city, mainly in the Royal Cornhill Psychiatric Hospital.

At the time of the census the number of beds (they also served people living outside the pilot study area in north-east Scotland and in Orkney and Shetland) was very large, corresponding to 4.4 per 1000 population of the catchment area, of which 0.4 per 1000 population was for the mentally retarded. At that time, 3.7 per 1000 population of the pilot study area were inpatients.

During the decade 1966–1975, the resident patient rate fell by a quarter, and the number of inpatient admissions rose by 24%. The number of first admissions for mental illness (approximately 950) remained remarkably stable, indicating more intensive and frequent use of inpatient facilities for shorter periods of stay. The proportion of very long-stay patients (over 20 years) remained approximately constant at about 25%, many of them (mainly schizophrenic) growing old within the hospital. The number of new referrals to the mental health services likewise remained stable at around 2200 per year. Overall outpatient activity also showed little change, although hospital emergency consultations, e.g. for self-poisoning, increased by 37% and domiciliary visits, mainly to the aged, by 41%.

The mental health services both complement and overlap with the social and geriatric services. At the time of the census, the psychiatric hospitals employed their own social workers, who had often had specific psychiatric training and experience. In May 1975, however, all hospital social workers became employees of the area social work department. Training and experience is now "general", and future developments will depend greatly on the degree of priority accorded by the social work departments to mental health as opposed to other forms of social work, e.g. in the courts.

In 1975, a total of 593 hospital beds in the area were designated as geriatric (13.4 per 1000 population over the age of 60 years, which is similar to the national figure). Provision of sheltered housing and residential homes compared favourably with national figures, and the area was also well endowed with domiciliary geriatric care provided by trained nurses and social workers. In spite of this, however, there was much pressure on geriatric residential accommodation, and especially on psychogeriatric hospital beds.

Current problems concern, briefly, the demand for psychogeriatric hospital beds; the shortage of nurses, due partly to competition from the oil industry with its high wages and partly to the scarcity and high cost of housing for those who might otherwise wish to move into the area; geographical difficulties, which make it hard for outpatients to attend regular clinics or day hospitals and for relatives to visit those who are in hospital; the lack of a unit specifically for adolescents; lack of continuity of patient care, e.g. when patients are transferred because their illness has become chronic or when they are admitted as emergencies to different hospitals; the general lack of hostel accommodation for patients; and the lack of special facilities for the treatment of alcoholics.

A comprehensive reorganization of the adult mental health services has taken place. There are now three teams, each with a catchment area containing a part of the city and the surrounding rural area and each with its own inpatient, outpatient, day and community services. The new arrangements should promote closer contact with local authority social workers, general practitioners and teachers, as well as greater continuity of care and ease of geographical communication. Special units, e.g. in child or forensic psychiatry, will continue to have responsibility for the larger area now covered by the inpatient services. There are also plans for a new adolescent inpatient unit as well as a new mental hospital.

Patient census and cohort study

Patient census

As mentioned above, the patient census was not repeated for the Aberdeen pilot study area. However, Table 7 shows that, at the time of the first census, there were 1187 inpatients (3.71 per 1000 population), 345 outpatients (1.1 per 1000 population) and 231 day patients (0.7 per 1000 population). Of the inpatients, 840 (2.6 per 1000 population) or 70.8% had been in hospital for one year or more. The concentration of services in Aberdeen, mentioned above, is reflected in the figures for patients in care at the time of the census. Outpatient facilities were used much more frequently by people from the city than by those living in the country, the number of contacts being 2.3 times greater. The figures for day care were even more disproportionate (3.8 times greater) but those for domiciliary care were about the same. The availability of extramural and semi-mural services did not seem to affect the number of patients occupying beds on census day.

Description of cohort

The cohort consisted of 200 consecutive cases aged 15 years or over entering the services of the Aberdeen pilot study area between 4 January and 21 October 1980. All patients were residents of the area and had not

Table 7. Aberdeen patients by type of care and residence, absolute and per 1000 population

Area	Population	Inpatients		Outpatients		Day care		Domiciliary service	
		Number	Per 1000 population	Number	Per 1000 population	Number	Per 1000 population	Number	Per 1000 population
Aberdeen city	182 071	692	3.80	261	1.43	193	1.06	84	0.46
Aberdeenshire	137 961	495	3.59	84	0.61	38	0.28	50	0.36

been in contact with the services for at least six months prior to entry. At the time of entry, patients were identified through the North-East Scottish Case Register in Aberdeen, and contact data were gathered retrospectively from case records. Tables C1 and C2 and Fig. C1 contain data on the age, sex, marital status and diagnosis of the cohort patients. As in all other areas, there is a slight predominance of female patients (56.8%) over male patients (43.2%). Nearly half (47.7%) the patients were married (37.3% of the males and 55.8% of the females). The largest groups were the younger (25–44 years) (43.7%) and the middle-aged (45–64 years) (25.1%), while 12% were 65 years or over (10.4% of the males and 14.1% of the females). The largest diagnostic group was neurosis and personality disorders with 61.3% (47.7% of the males and 71.7% of the females), followed by alcohol and drug dependence with 13.6% (23.3% of the males and 6.2% of the females), affective psychoses with 8.9%, organic psychoses with 8%, and schizophrenia and paranoid states with 6.5%.

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 199) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M		2.0	5.0	7.5	1.0		0.5		16.1
	F		2.0	6.5	4.0	1.5		0.5		14.6
Total			4.0	11.6	11.6	2.5		1.0		30.7
Married	M			1.0	8.0	4.0	2.0	1.0		16.1
	F			2.0	15.6	11.1	2.5	0.5		31.7
Total				3.0	23.6	15.1	4.5	1.5		47.7
Widowed	M					0.5			0.5	1.0
	F				0.5	0.5	1.0	2.0	1.5	5.5
Total					0.5	1.0	1.0	2.0	2.0	6.5
Divorced/ separated	M				5.5	3.5				9.0
	F				2.5	2.5				5.0
Total					8.0	6.0				14.0
Not known	M					0.5		0.5		1.0
	F									
Total						0.5		0.5		1.0
Total	M		2.0	6.0	21.1	9.5	2.0	2.0	0.5	43.2
	F		2.0	8.5	22.6	15.6	3.5	3.0	1.5	56.8
Grand total			4.0	14.6	43.7	25.1	5.5	5.0	2.0	100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M		1	1	4	6
	F			1	9	10
Total			1	2	13	16
Schizophrenia and paranoid states	M	1	6	2	1	10
	F	1	1	1		3
Total		2	7	3	1	13
Affective psychoses	M		3	1	3	7
	F		2	5	3	10
Total			5	6	6	17
Other psychoses	M					
	F					
Total						
Neurosis and personality disorders	M	12	23	5	1	41
	F	18	38	21	4	81
Total		30	61	26	5	122
Alcohol and drug dependence	M	2	8	10		20
	F	1	3	3		7
Total		3	11	13		27
Mental retardation	M	1				1
	F					
Total		1				1
Other	M					
	F		1			1
Total			1			1
No psychiatric diagnosis	M		1			1
	F	1				1
Total		1	1			2
Total	M	16	42	19	9	86
	F	21	45	31	16	113
Grand total		37	87	50	25	199

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 199)
(See also Table C1)

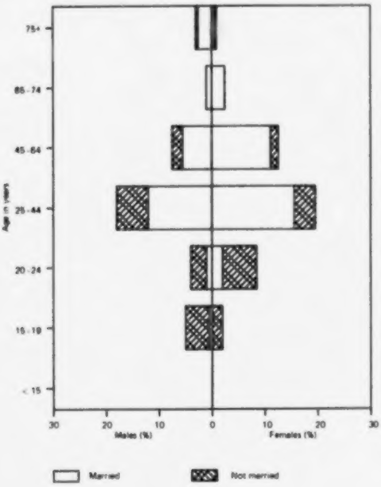


Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	86	83.7	16.3
Females	113	94.7	5.3
Total	199	89.9	10.1

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

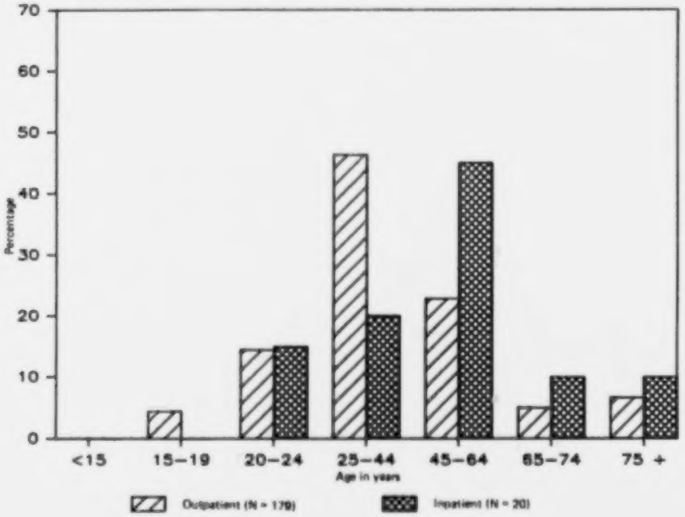
Type of contact	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Outpatient		8	26	83	41	9	9	3	179
Inpatient			3	4	9	2	1	1	20
Total		8	29	87	50	11	10	4	199

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis*										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	14	9	15		4	19	1	1	2		179
Inpatient	2	4	2		118	8					20
Total	16	13	17		122	27	1	1	2		199

* The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



Types of contact at first entry

Tables C3–C5 and Fig. C2 show that the large majority of the cohort entered as outpatients (89.9%). No patients entered as day patients, since this type of care is generally used either as follow-up after inpatient care or as a substitute for long-term inpatient care. Of those who entered as inpatients, 40% were alcoholics and 20% were neurotics.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7	1–5	6–7	
Organic psychoses	44		6	6		38	6	56	44	16
Schizophrenia and paranoid states			8	8		46	38	16	84	13
Affective psychoses	12	6		18		24	41	35	65	17
Other psychoses										
Neurosis and personality disorders	37	5	11	20	7	8	12	80	20	122
Alcohol and drug dependence	19	4	4	7	4	37	26	37	63	27
Mental retardation	100							100		1
Other	100							100		1
No psychiatric diagnosis	100							100		2
Total	32	4	9	16	5	18	18	64	36	199

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

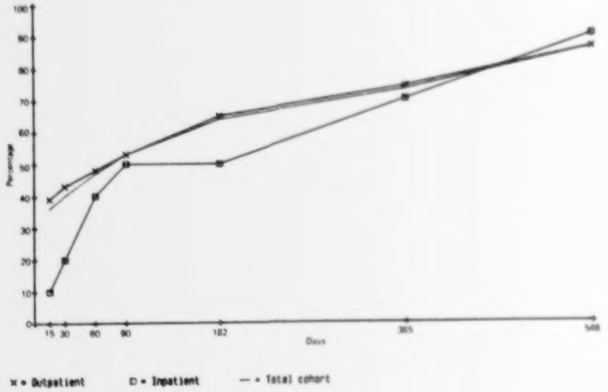
[b] Including 1 day patient who has not been an inpatient.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after. . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	50	56	63	69	69	88	94	16
Schizophrenia and paranoid states	8	15	23	39	39	54	62	13
Affective psychoses	12	12	29	35	41	53	53	17
Other psychoses								
Neurosis and personality disorders	40	43	47	53	70	77	92	122
Alcohol and drug dependence	30	37	52	52	54	67	85	27
Mental retardation	100							1
Other	100							1
No psychiatric diagnosis	100							2
Total	36	40	47	53	64	73	86	199

[a] The percentages are horizontally cumulative, i.e. at each successive point in time, an increasing number of patients have left the service.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



Types of contact during the first year

Table C6 shows that nearly one-third of the cohort (32%) had one outpatient contact only, 64% were in outpatient care only, and of the 36% who received both inpatient and outpatient care, 24 patients had neurotic disorders, 17 suffered from alcoholism, 11 had schizophrenia, 11 had affective psychoses, and seven had organic psychoses.

Percentage of patients and types of contact during the follow-up episodes of care

After 60 days, nearly half the patients (47%) had no further contact with the services; after one year, only 27% were still receiving care; and after 1½ years, only 14% of the cohort were still in contact with the services. These included 38% with schizophrenia and 47% with affective psychoses, or in absolute numbers, ten with neurotic disorders, eight with affective psychoses and five with schizophrenia. Some 5.5% of the cohort became chronic users. Of these, five patients had affective psychoses, three had neurotic disorders, two had organic psychoses and one had schizophrenia.

Caseload features

The heaviest burden on the services falls within the first two weeks after entry of the patients. Measured by number of contacts, beds or places occupied per week per 1000 patients, there is a steady decline except for day (and night) places, where there is a slight increase 61–182 days after entry, but the numbers are very small.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care*								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	56.3	6.3	6.3	18.8			12.5		16
Schizophrenia and paranoid states	7.7	7.7	15.4	53.8		7.7	7.7		13
Affective psychoses	23.5	5.9	11.8	23.5		5.9	29.4		17
Other psychoses									
Neurosis and personality disorders	58.2	18.9	7.4	9.8		3.3	2.5		122
Alcohol and drug dependence	22.2	11.1	29.6	33.3		3.7			27
Mental retardation	100.0								1
Other	100.0								1
No psychiatric diagnosis	100.0								2
Total	47.7	14.6	11.1	17.6		3.5	5.5		199

* Episodes of care:

1 = **Outpatient, short**
Some outpatient contacts, but no "long episode", i.e. comprising six contacts or more.

2 = **Outpatient, medium or long but not chronic**
One long episode with some isolated outpatient contacts. The different types of long episodes are characterized by the following averages:

	type 1	*type 2*	*type 3*
number of events	11	15	12
length	258 days	125 days	115 days
average interval between two events	30 days	10 days	12 days
maximum interval	86 days	20 days	40 days
concentration	0.37	0.25	0.43

or
two long episodes of type 3.

3 = **Inpatient, short**
One stay in hospital, of less than 22 days.

4 = **Inpatient, medium or long but not chronic**
One stay in hospital, of between 25 and 250 days. Some isolated outpatient contacts; *or*
Two or three stays in hospital, each of less than 63 days. One or two outpatient contacts.

5 = **Mixed types of care, short**
No patient.

6 = **Mixed types of care, medium or long but not chronic**
One short stay in hospital (less than 10 days) followed by several outpatient episodes, at least one of type 2 or type 3 (see above); *or*
One or more stays in hospital and day hospital, and/or outpatient episodes. The total length of care is between 110 and 140 days.

7 = **Chronic**
One or more stays in hospital and/or in day hospital, and one or more long outpatient episodes. The total care duration is at least 350 days; *or*
One long outpatient episode: 72 contacts during a 600-day period.

8 = **Not classified elsewhere**
No patient.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients			
	1	2	1 + 2	Outpatient	Day patient	Night patient	Beds
0–15	144	22	33	54.6	0.4		18.4
16–30	43	33	1	13.4	0.1	0.3	13.2
31–60	52	23	4	12.0	0.1	0.3	7.5
61–90	48	11	3	11.2	0.3		4.1
91–182	49	10	7	5.7	0.4		2.9
183–365	33	10	11	3.4	0.2		2.3
366–548	29	5	11	2.7	0.2		1.9
549–730	18	6	4	1.2	0.3		2.4
First year	128	15	56	7.8	0.3	0.0	4.2
Second year	34	7	12	1.9	0.2		2.1
First and second year	123	12	64	4.0	0.2	0.0	3.1

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Nottingham
United Kingdom

The pilot study area

General and geographical information

The pilot study area consists of the city of Nottingham and three adjacent districts. Nottingham is situated in the east-central part of England in the flood plain of the River Trent.

The origins of the city as a settlement date from Saxon times, and there are many references to it as a centre of population in the early middle ages. For many centuries, there was a castle and a walled town. Industrialization commenced in the city in the eighteenth century, earlier than in most other parts of Britain. This was largely due to the mechanization of lace making, a craft for which Nottingham has always been nationally famous.

Further industrial development occurred during the nineteenth century, as in most other towns in the Midlands of England, and this was the period of greatest increase in the population and new building. However, at this time, there was a smaller increase in area than in other English cities, and the population density of Nottingham remains relatively high.

Nottingham has a large, expanding university with a new medical school, a polytechnic and several teacher-training colleges. There are also a number of smaller centres for vocational training.

The city is well provided with cinemas, theatres and concert halls, and moderately well supplied with open spaces for public recreation and sport.

There is a small airport with regular services to the continent, and fast and frequent rail services to London, which is 200 km away. Road facilities are good; bus services are adequate, especially centrally, where there is a free service.

Sociodemographic profile

Population by sex, age and marital status

Tables 1 and 2 show the distribution by sex, age and marital status of the population in 1981. There were 48.8% males and 51.2% females,

Table 1. Population by sex and age, absolute and as a percentage of total population, 1981

Sex	Age in years					Total
	<15	15–24	25–44	45–64	≥65	
Absolute						
Males	40 224	32 074	48 322	43 125	21 786	185 531
Females	38 628	31 757	46 938	43 509	33 660	194 492
Total	78 852	63 831	95 260	86 634	55 446	380 023
Percentage						
Males	10.6	8.4	12.7	11.3	5.7	48.8
Females	10.2	8.4	12.4	11.4	8.9	51.2
Total	20.8	16.8	25.1	22.7	14.6	100.0

Table 2. Population by sex, age and marital status, 1981

Sex	Age	Marital status				Total
		Single	Married	Widowed	Separated/ divorced	
Males	<15	40 224				40 224
Females		38 628				38 628
Males	15–24	27 781	4195	9	89	32 074
Females		24 083	7373	23	278	31 757
Males	25–44	9751	35 461	148	2962	48 322
Females		5552	37 266	438	3682	46 938
Males	45–64	4310	35 387	1307	2121	43 125
Females		2656	33 736	4853	2264	43 509
Males	≥65	1708	15 713	3894	471	21 786
Females		3613	12 672	16 705	670	33 660
Males	Total	83 774	90 756	5358	5643	185 531
Females		74 532	91 047	22 019	6894	194 492

while just over one-fifth (20.8 %) of the population were under 15 years of age and 14.6 % were 65 years or over. Of the younger adults (25–44 years), 73.4 % of the males and 79.4 % of the females were married. Of the middle aged (45–64 years), 82.1 % of the males and 77.5 % of the females were married, 11.2 % of the females widowed and 5.2 % separated or divorced. Of the elderly (65 years or over), 72.1 % of the males were married, 17.9 % widowed, and 2.2 % separated or divorced. The corresponding figures for the females are 37.6 %, 49.6 % and 2 % respectively.

The pilot study area covers 125 km², with a population of close to 400 000. Almost 300 000 live within the city of Nottingham, which gives a population density of over 2000 per km². The stability of local employment from the end of the Industrial Revolution up to 1954 has resulted in relatively little net in or out migration from other parts of the country.

Employment and main economic activities

Of the 109821 economically active males, 86.6% are employed and 13.4% are unemployed. The highest unemployment rate (20%) is in the 15–24-year age-group. Of the 67698 economically active females, 92.5% are employed and 7.5% are unemployed. Again, the highest unemployment rate is among those aged 15–24 years (14.8%).

Nottingham is characterized by mixed light industry, plus a significant coal industry on the outskirts of the town. The main groups comprise cigarettes, bicycles, electronics and pharmaceuticals. In addition, there are well established textile industries, particularly lace making and knitting. This marked diversity, rather than a reliance upon one or two industries, has given Nottingham considerable industrial resilience over the years, compared to some other parts of the country. On the whole, unemployment rates in Nottingham tend to be slightly below the national average because of this factor.

Population distribution and housing

The area was totally urban in character until ten years ago, most housing being pre-1914, but since then there has been substantial central redevelopment and some further peripheral, domestic building. Although housing is concentrated, there are few high-rise dwellings, while 35% of the dwellings are publicly owned, a high proportion by English standards. The effect of recent clearances and central redevelopment has been to remove, in their entirety, the two worst of the three major areas of substandard industrial revolution housing and to replace them on the same site by modern, publicly owned housing. Nottingham is still 100% urban, whereas in England & Wales as a whole 76.9% of the population live in urban areas.

The percentage of households with more than one person per room is 4.0 in Nottingham as compared with 4.3 in England & Wales. The percentage without own bathroom is 2.3 in Nottingham and 3.2 in England & Wales. The distribution of housing ownership is as follows:

Owner-occupied	35%
Rented from local council	40%
Rented privately, unfurnished	21%
Rented privately, furnished	4%

Main ethnic and religious groups

Nearly 90% of the population is British. The countries of origin of the remainder are shown below, together with the corresponding figures for England & Wales for purposes of comparison:

	England & Wales	*Nottingham*
Ireland, EEC, other European countries, rest of the world other than New Commonwealth	6.6%	6.7%
New Commonwealth (India, various African countries, the Caribbean, the Far East) and Pakistan	4.5%	3.5%
	11.1%	10.2%

The immigration of a significant though not large number of people from the New Commonwealth, principally the West Indies, but with a sizeable minority from India and Pakistan, shown by the figures just given, started in Nottingham in 1945, as in most industrial cities of the Midlands. Most of the immigrants have been accompanied by their families and are employed in manufacturing and lower paid service occupations. Many of the newer arrivals live in a "zone of transition", with more established immigrant communities developing in the surrounding area of older working class housing. There are no particular minority religious groups other than those that would be expected from the figures for the ethnic composition.

Indicators of social stability

The suicide rate in Nottingham in 1980 was 12.10 per 100 000 population, as compared with 7.96 for England & Wales. There are no readily available figures for juvenile delinquency, alcoholism or drug abuse because these are not systematically recorded; there is also the problem of interpreting them in terms of population figures. Some relevant information, however, is given below.

(1) *Registered criminality and violence (1980)*

England & Wales	197 per 100 000 population
Nottingham	438 per 100 000 population

This comparatively high rate has been a feature of Nottingham for years, and it is possible that it is to some extent a product of recording methods.

(2) *Homicide rate (1981)*

England & Wales	11.2 per 1 million population
Nottingham	7.9 per 1 million population

(3) *Percentage of population in prison (1981)*

England & Wales	0.082
Nottingham	0.060

Health and welfare system

Health services

The health services in Nottingham are provided by the National Health Service, which for all practical purposes is the only type of service provided in the area. It provides services free of charge for all outpatient, day patient and inpatient types of care, plus general practitioner care. Well over 99% of the total population are registered with a general practitioner. A small proportion of the higher income groups also have private health insurance arrangements, but this does not affect the overall pattern, and such people also use the National Health Service (and pay for it through taxation). This absence of private practice applies equally to both psychiatric and general medical care. In the United Kingdom, it is only in London that there is a significant amount of private practice in psychiatry, and again this does not affect the availability of the National Health Service for the great majority of the population.

In 1978, the services and personnel shown in Tables 3 and 4 were available in Nottingham.

Table 3. Types of services available, 1978

Type of service	Number	Number of beds	Beds per 1000 population	Population of catchment area
General hospitals	4	1570	2.6	≈ 600 000
Psychiatric hospitals	Group	734	1.9	≈ 400 000
Institute for mental retardation	3	320	0.9	≈ 400 000

Table 4. Types of personnel available, 1978

Type of personnel	Number	Number per 1000 population
General practitioners	194	0.4
Psychiatrists in private practice	1	
Psychiatric social workers	13	0.03
Community psychiatric nurses	11	0.03

There were also outpatient clinics operating for 113 half days per month and providing 17 000 consultations per year.

The general health situation

Morbidity figures are not available, but the following indicators of the health situation can be given.

(1) *Infant mortality (1979)*

England & Wales	12.82 per 1000 live births
Nottingham	12.35 per 1000 live births

(2) *Life expectancy at one year (1978/1979)*

	Males	*Females*
England & Wales	70.4 years	76.4 years
Nottingham	70.8 years	77.2 years

(3) *Five leading causes of death (1980)*

	Crude death rates per 100 000 population	
	England & Wales	*Nottingham*
Ischaemic heart disease	284.4	295.5
Cerebrovascular disease	131.6	147.6
Cancer of the trachea, bronchus and lung	64.8	108.7
Pneumonia	98.9	95.8
Pulmonary, circulatory and other heart diseases	63.8	91.8

Mental health services

Existing facilities

Psychiatric services within the area or for the population of the area are to all intents and purposes provided by National Health Service. There is no private psychiatric institution within 100 km and the private outpatient services provided by part-time National Health Service psychiatrists amount to less than one full-time equivalent. Within the health service, psychiatric services are operated as a single unit, administered and medically organized on a district basis.

Inpatient services are provided by Mapperley Hospital and three small psychiatric hospitals nearby, now administered as a single functional unit, with a total of 734 beds and including units for alcoholics, psychogeriatric patients, adolescents and children, and long-stay patients. Between 1959 and 1969, the resident patient rate fell from 2.4 to 1.6 per 1000 population. From 1950 onwards, the number of psychiatric beds had already been falling, though changes in catchment area do not permit direct population rate comparisons. Since 1969, there has been no change, but the present figure is the lowest in the United Kingdom for a comprehensive service in an urban area. First and total admission rates are the highest in the country, and mean length of stay and proportion of patients remaining after one year are the lowest. As in other areas, the proportion of patients admitted at the age of 65 years or over is rising and at 32% is high for the United Kingdom.

There are psychiatric outpatient clinics at three hospitals, with special clinics for children, adolescents, addicts, geriatric patients and students, as well as a consultative service in general hospital wards. There is also a domiciliary service, and special depot neuroleptics and ECT clinics.

Outpatient rates both for new cases and for total attendances are high, as compared with national figures. Total outpatient attendances doubled between 1960 and 1965; there have been fluctuations since then, with the average total 10% lower than in 1965, but there has been no steady downward trend. The distribution of attendances at various types of clinic continues to change. There has been a marked decline in numbers attending ECT clinics, as well as in the number of home visits, but little change in the non-specialist clinics, and a steady increase in the neuroleptic clinic (now stabilizing) and in group psychotherapy (continuing).

Six day centres, located in the two major mental hospitals, provide 550 places and offer mainly an alternative to long-stay inpatient care. They comprise one unit for industrial therapy, three for psychogeriatric patients and two for general patients; all can take advantage of the full range of hospital occupational facilities. With the exception of the psychogeriatric units, these facilities have now been brought together under the care of a consultant psychiatrist specializing in rehabilitation, and an active rehabilitation team is now based in one of the smaller hospitals. In spite of its hospital base, this team has an essentially community-oriented approach to rehabilitation. Most patients still have severe social handicap and are supported outside hospital by the community nursing department, which also supervises a number of "hostels" that are otherwise independently owned and managed. More than half the day patients have attended continuously for more than two years and 30% for more than five years.

During the last two years, two small but active general psychiatric day hospitals have also been started up, each offering about 25 (maximum) daily places. These are both situated on hospital premises at the moment, but efforts are being made to find alternative sites away from the psychiatric hospitals.

There are also small special day centres for children, for adolescents and for alcoholism and addiction. In addition, about 50 patients attend various inpatient wards while in transition from inpatient care to discharge. Only one other area in the United Kingdom has a day patient population approaching that of Nottingham, which is several times larger than the national average.

Most of the above trends and services have evolved as a result of a deliberate policy shift, which started in 1947 and which made community care and avoidance of hospitalization the primary aims. Numbers of hospital beds were reduced, while admission rates remained high and a major effort was made to discharge patients. The rise in outpatient attendances is the result partly of a policy of early detection and treatment and partly of the use of outpatient facilities by potential and former long-stay patients, who also account almost entirely for the development of day patient services. The admission rate for patients aged over 65 years, which is very high in view of the highly developed system of assessment and alternative care, is probably influenced by the fact that many elderly patients are looked after by the psychiatric services who in other areas might receive non-psychiatric, general geriatric care. Certainly, the number of general psychiatric beds in Nottingham is low, and nosocomial factors would seem to play an important part in the variations found within the United Kingdom.

Problems in the area concern: the age of hospital buildings; the inadequacy at times of social and other services that are supposed to meet the needs of former patients now maintained in the community; the shortage of suitable and supervised residential facilities for the increasing number of elderly patients with dementia; local municipal difficulties in financing community facilities; and the high drop-out rate among the outpatients and day patients for whom the majority of the psychiatric services cater.

Clinical teams

At the time of the cohort study, the general adult clinical service was provided by five teams, each consisting of two or three consultant psychiatrists, plus supporting junior staff (usually one resident per consultant, a shared senior resident, one social worker and a share in a clinical psychologist per team). Each team was responsible for an equal share of the catchment area (about 80 000 persons), and all teams worked on the principle of providing all types of service, namely outpatient, inpatient and day care, as well as taking some responsibility for long-stay patients and the elderly. In addition, a specialist service for the elderly dealt with the majority of the elderly functionally ill and virtually all of the demented elderly. This service for the catchment area was based at St Francis' Hospital, close to Mapperley, and a small part of the catchment area (30 000 people) was covered by the Nottingham University Department of Health Care of the Elderly.

Thus, each clinical team was in charge of an acute admission ward (for both sexes), some long-stay facilities in the main hospital, and outpatient clinics (usually two or three half-days per team per week).

Services providing service to the area

Within the pilot study area the Mapperley Group, which is under the authority of the Nottingham District Health Authority, provides a comprehensive psychiatric service to the community.

Outside the pilot study area but providing service to it, the Beestan Day Centre, under the authority of the Social Services Department, provides support for long- and medium-term day patients.

Patient census and cohort study

Patient census

No new patient census was carried out in Nottingham. However, at the time of the census carried out in 1974, 1458 patients were attending the services. Of these, 613 were inpatients (1.49 per 1000 population), 332 were outpatients (0.81 per 1000 population) and 513 were day patients (1.25 per 1000 population). Of the inpatients, 298 (48.6%) had been in hospital for one year or more.

Description of cohort

The cohort consisted of 200 consecutive cases, aged 15 years or over, without previous contact with the services of the area, entering the services from 3 January 1978 to 24 April 1978. Patients living in the area but receiving services elsewhere were not included; their number would be very small, since catchment area boundaries are scrupulously observed.

Tables C1 and C2 and Fig. C1 contain data on the age, sex, marital status and diagnosis of the patients of the cohort. As elsewhere, there was a slight predominance of female patients. The large majority were in

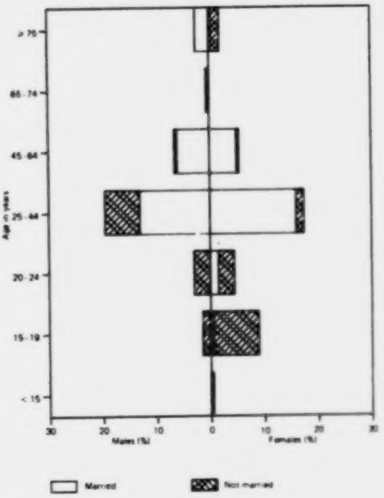
Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 200) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M		4.5	3.0	6.0	2.0		0.5		16.0
	F	0.5	8.5	3.0	1.5	0.5		0.5	1.0	15.5
Total		0.5	13.0	6.0	7.5	2.5		1.0	1.0	31.5
Married	M		0.5	1.0	12.0	5.5	1.0	1.5	1.0	22.5
	F		0.5	1.5	16.0	5.0		0.5		23.5
Total			1.0	2.5	28.0	10.5	1.0	2.0	1.0	46.0
Widowed	M				1.5			0.5		2.0
	F				0.5	2.5	2.0	4.5	1.0	10.5
Total					2.0	2.5	2.0	5.0	1.0	12.5
Divorced/ separated	M			1.5	2.5	1.0				5.0
	F				2.0	1.5				3.5
Total				1.5	4.5	2.5				8.5
Not known	M				1.0					1.0
	F					0.5				0.5
Total					1.0	0.5				1.5
Total	M		5.0	5.5	23.0	8.5	1.0	2.5	1.0	46.5
	F	0.5	9.0	4.5	20.0	10.0	2.0	5.5		53.5
Grand total		0.5	14.0	10.0	43.0	18.5	3.0	8.0	1.0	100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25-44	45-64	≥65	
Organic psychoses	M			3	4	7
	F		1	2	9	12
Total			1	5	13	19
Schizophrenia and paranoid states	M	2	1	2		5
	F	1		2		3
Total		3	1	4		8
Affective psychoses	M		3	3	1	7
	F	1		6		7
Total		1	3	9	1	14
Other psychoses	M		1		1	2
	F					
Total			1		1	2
Neurosis and personality disorders	M	8	25	5	1	39
	F	16	28	8	5	57
Total		24	43	13	6	96
Alcohol and drug dependence	M		7			7
	F		1	1		2
Total			8	1		9
Mental retardation	M	1		1		2
	F					
Total		1		1		2
Other	M	1	2			3
	F					
Total		1	2			3
No psychiatric diagnosis	M	9	7	3	2	21
	F	10	10	1	2	23
Total		19	17	4	4	44
Not known	M					
	F				3	3
Total					3	3
Total	M	21	46	17	9	93
	F	28	40	20	19	107
Grand total		49	86	37	28	200

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 200)
(See also Table C1)



the younger (15–44 years) age-groups, only one-third of the cohort being older than 45 years.

A little less than half the patients were married and nearly one-third single. For nearly half the cohort, the diagnosis was neurosis and personality disorders, while 22% had no psychiatric diagnosis. The size of this latter group can be explained in a number of ways. A significant proportion of first outpatient contacts and quite a large proportion of the self-poisonings and attempted suicides in general hospitals are recorded by the attending psychiatrist as having no formal psychiatric diagnosis. However, with a little more attention to the theoretically correct use of the ICD codes, the majority of them could be assigned a rather vague diagnosis of personality disorder or acute situational disturbance. Probably less than 5% would have no psychiatric condition at all if dealt with in this way.

Types of contact at first entry

Tables C3–C5 and Fig. C2 clearly reflect the high proportion of outpatient care characteristic of the psychiatric services in the United Kingdom. As the cohort consisted literally of consecutive cases, a comparatively high proportion were outpatient and attempted suicide contacts and only a very small proportion had their first contact as inpatients.

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	93	95.7	4.3
Females	107	93.5	6.5
Total	200	94.5	5.5

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

Type of contact	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Outpatient	1	28	20	82	36	6	11	5	189
Inpatient				4	1		5	1	11
Total	1	28	20	86	37	6	16	6	200

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	16	8	13	2	92	9	2	3	44		189
Inpatient	3		1		4					3	11
Total	19	8	14	2	96	9	2	3	44	3	200

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Types of contact during the first year

Table C6 shows that 32% of the cohort had one outpatient contact only and that 70% received only outpatient care. Of the 30% who received both inpatient and outpatient care, most were diagnosed as suffering

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)

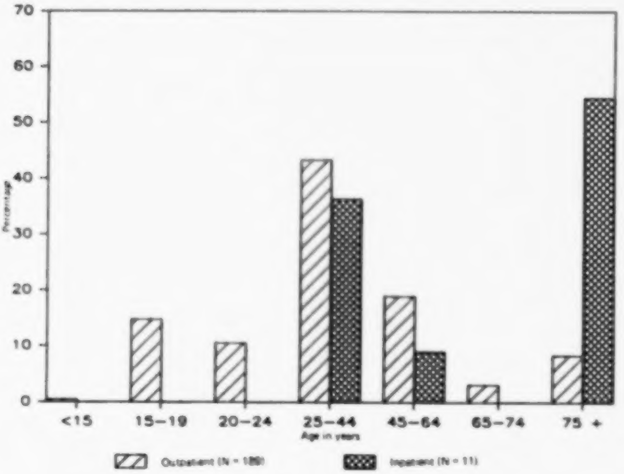


Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6[b]	7[c]	1–5	6–7	
Organic psychoses	16	5		5		74		26	74	19
Schizophrenia and paranoid states	25	25	13	13		13	13	75	25	8
Affective psychoses		7	7	36		14	36	50	50	14
Other psychoses	50		50					100	0	2
Neurosis and personality disorders	21	8	13	28	1	10	19	71	29	96
Alcohol and drug dependence			11	11		22	56	22	78	9
Mental retardation	50			50				100	0	2
Other	100							100	0	3
No psychiatric diagnosis	80	11	5	2	2			100	0	44
Not known						100		0	100	3
Total	32	8	9	18	1	16	14	70	30	200

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

[b] Including 9 day patients who have not been inpatients.

[c] Including 3 day patients who have not been inpatients.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	37	53	63	63	74	74	79	19
Schizophrenia and paranoid states	38	38	50	75	75	75	100	8
Affective psychoses	0	7	14	14	29	57	79	14
Other psychoses	100	100	100	100	100	100	100	2
Neurosis and personality disorders	27	32	45	46	61	78	83	96
Alcohol and drug dependence	11	22	22	33	44	56	67	9
Mental retardation	50	50	50	50	100	100	100	2
Other	100	100	100	100	100	100	100	3
No psychiatric diagnosis	82	82	86	91	96	96	98	44
Not known	100	100	100	100	100	100	100	3
Total	41	46	55	59	69	80	86	200

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	52.6		15.8	5.3	10.5		15.8		19
Schizophrenia and paranoid states	62.5	12.5	12.5			12.5			8
Affective psychoses	21.4	14.3	21.4	14.3		28.6			14
Other psychoses	100.0								2
Neurosis and personality disorders	55.2	17.7	13.5	6.3	2.1	1.0	3.1	1.0	96
Alcohol and drug dependence	22.2		33.3	11.1	11.1	22.2			9
Mental retardation	100.0								2
Other	100.0								3
No psychiatric diagnosis	97.7	2.3							44
Not known	100.0								3
Total	63.0	10.5	11.5	5.0	2.5	4.0	3.0	0.5	200

[a] Episodes of care:

1 = **Outpatient, short**

Some outpatient contacts, but no "long episode", i.e. comprising six contacts or more; *or*

One "stay" in day hospital, of less than five days, sometimes following one outpatient contact.

2 – Outpatient, medium or long but not chronic

One long episode, and some isolated outpatient contacts. The different types of long episodes are characterized by the following averages:

	Type 1	*Type 2*
Number of events	9	10
Length	186 days	293 days
Average interval between two events	23 days	38 days
Maximum interval	41 days	68 days
Concentration	0.31	0.34

3 – Inpatient, short

One "stay" in hospital, of less than 40 days, sometimes following (and followed by) one outpatient contact.

4 – Inpatient, medium or long but not chronic

Several stays in hospital, each of less than 40 days; *or*
One stay in hospital, of between 40 and 80 days } with some outpatient contacts

5 – Mixed types of care, short

One stay in hospital, of three days, following (and followed by) one outpatient contact; *or*
One or more "stays" in day hospital and hospital. The length of the stays is less than 36 days in day hospital and less than 50 days in hospital. Some isolated outpatient contacts. The different stays are continuous.

6 – Mixed types of care, medium or long but not chronic

One or more long outpatient episodes of types 1 and 2 (see above) and one or more stays in hospital, each between 10 and 70 days. There is no interval between the different types of care; *or*
One or more stays in day hospital and hospital. The length of one stay at least is more than 110 days.

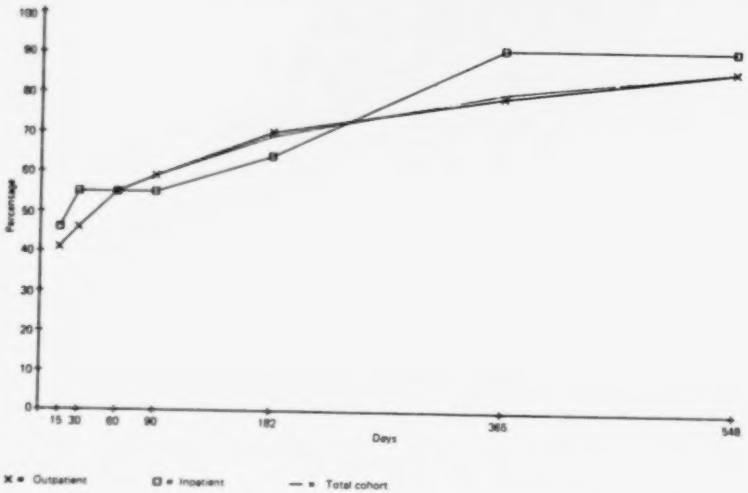
7 – Chronic

One or more stays in hospital, and/or one long episode; the total care duration is more than 580 days.

8 – Not classified elsewhere

One stay in hospital, of 335 days, following (and followed by) one outpatient contact.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



from neurosis and personality disorders, organic psychosis, and alcohol and drug dependence.

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that 41% of the cohort had no further contact with the services after 15 days and that after one year, 80% had left. Only 3% became chronic users; these were three patients with organic psychosis and three with neurosis and personality disorders.

Caseload features

Table C9 confirms the above findings, showing a sharp decrease in the burden on the services after two weeks followed by a practically steady decrease for the remainder of the two-year follow-up period. The relatively low use made of day care by the cohort is due to the fact that these were new patients, and this type of care is mainly used as a follow-up after inpatient care or as a substitute for long-term inpatient care.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1 + 2	Outpatient	Day patient	Beds
0–15	151	11	38	51.1	2.1	15.5
16–30	48	33	2	13.0	0.5	13.0
31–60	48	25	6	7.8	1.2	8.5
61–90	41	15		5.3	1.6	4.2
91–182	52	12	3	3.7	0.5	3.2
183–365	35	7	7	2.2	0.2	6.1
366–548	25	4	5	1.2	0.0	2.6
549–730	17	6	3	0.7	0.1	2.1
First year	139	7	54	5.8	1.1	4.5
Second year	31	4	6	1.0	0.1	2.4
First and second year	136	6	58	3.4	0.3	3.5

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Belgrade, Yugoslavia

The pilot study area

General and geographical information

Belgrade is the capital of the Socialist Federal Republic of Yugoslavia. It lies on the rivers Sava and Danube at 160 m above sea level. The climate is mild continental with distinct yearly seasons.

The population of Belgrade has steadily increased, rising from a figure of only 20 000, 120 years ago, to about 320 000 immediately before the Second World War, falling somewhat after it to 280 000, and then rising again rapidly to 1 371 000 in 1978. According to the census of 31 March 1981, it is currently somewhat over 1 500 000.

Belgrade can be divided into ten urban communes, with a population of 1 145 000 and a population density varying from 315.4 inhabitants per km^2 in Palilula to 27 181.2 inhabitants per km^2 in Vračar, and six suburban communes including three smaller towns (Lazarevac, Mladenovac and Obrenovac) with a population of 226 000, and a population density ranging from 75.1 inhabitants per km^2 in Barajevo to 143.5 inhabitants per km^2 in Mladenovac.

Thanks to good communications by road and rail, the centre of Belgrade can be reached in less than an hour and a half from the most distant of these communes.

Sociodemographic profile

Population by sex, age and marital status

The data given here have been taken from the 1971 census, as those from the 1981 census have not yet been finally audited. Tables 1 and 2 show the distribution of the population by sex, age and marital status in 1971. They show a nearly equal distribution between the sexes, with 48.8 % males and 51.2 % females, while 28 % of the population were 19 years or under, and 11.9 % were 60 years or over. Of the males aged 20–59 years, 25.4 % were single and 71.4 % were married. The corresponding figures for the females were 17.7 % and 71.9 % respectively. Of the 60 years or over age group, 82.8 % of the males were married and 11.3 % were widowed. Of the females in this age-group, 43.3 % were married and 47.2 % were widowed.

The average age of the population is constantly increasing as a

Table 1. Population by sex and age, and as a percentage of the total for each sex and age group, 1971[a]

Sex	Age group (years)						Not known	Total
	0–19	20–29	30–39	40–49	50–59	60 +		
Males	173 621 (29.3)	98 381 (16.7)	112 086 (19.0)	97 779 (16.6)	44 290 (7.5)	59 683 (10.1)	4 512 (0.8)	590 352 (100.0)
Females	166 656 (26.9)	101 963 (16.5)	108 768 (17.6)	103 994 (16.8)	48 686 (7.9)	84 478 (13.6)	4 464 (0.7)	619 009 (100.0)
Total	340 277 (28.1)	200 344 (16.6)	220 854 (18.3)	201 773 (16.7)	92 976 (7.7)	144 161 (11.9)	8 976 (0.7)	1 209 361 (100.0)

[a] Percentages of the total number of males, females or both sexes are shown in parentheses for each age group.

Table 2. Population by sex, age and marital status, as percentages of the total for each age group and category of marital status, 1971

Age group (years)	Males						Females					
	Single	Married	Widowed	Divorced	Not known	Total	Single	Married	Widowed	Divorced	Not known	Total
<19	99.7	0.3				100.0	98.7	1.3				100.0
20–29	68.9	30.4		0.5	0.2	100.0	44.7	53.1	0.3	1.8	0.1	100.0
30–39	13.8	83.6	0.2	2.2	0.2	100.0	9.0	83.6	1.3	6.0	0.1	100.0
40–49	5.2	89.9	0.7	4.0	0.2	100.0	6.0	79.7	4.2	9.9	0.2	100.0
50–59	3.0	91.1	1.9	3.8	0.2	100.0	5.5	68.9	16.1	9.3	0.2	100.0
≥60	3.0	82.8	11.3	2.7	0.2	100.0	4.4	43.3	47.2	4.7	0.4	100.0
Not known	22.7	35.3	1.4	1.9	38.7	100.0	16.7	38.4	7.0	3.6	34.3	100.0
Total	42.3	53.7	1.8	1.8	0.4	100.0	35.4	50.5	9.2	4.6	0.3	100.0

consequence of changes in mortality and fertility. This aging process is also influenced by migration and the effects of the Second World War.

Employment and main economic activities

The number of those in work has been increasing steadily from 403815 in 1971 to 549236 in 1978, when an additional 63282 were unemployed (65% females). Of those employed in 1978, roughly 41% were in industry and construction, 9% were in transport, 27% were in trade and services, and 22% were in public employment. A wide range of industries exists in the area.

Population distribution and housing

Within Belgrade, the ten communes are purely urban while some rural pockets remain in the six suburban communes mentioned above.

In the city itself, there were 391000 apartments with 434000 households in 1979. The number of persons per household is rapidly decreasing. According to the 1971 census, there were 19.2% with one person per household, 19.8% with two persons, 46.9% with three to four persons, and 13.8% with five or more persons.

Despite enormous efforts made by the authorities, the housing situation and conditions are still not satisfactory. A total of 10000 apartments are constructed annually, but the estimated need is 50000 and the increase in the population still further increases the difficulties.

Most apartments have electricity and piped water, while only 65% are connected to sewerage systems.

Indicators of social stability

In 1977, the median value of the divorce rate for the Belgrade area as a whole was 152.4 divorces per 1000 marriages, the values ranging from 142.3 to 224.3 divorces per 1000 marriages in the urban communes and from 69.4 to 143.8 divorces per 1000 marriages in the suburban communes. The median rate for suicides per 10000 population was 1.18, ranging from 0.14 to 1.21 in the urban communes, and from 0.87 to 2.50 in the suburban communes. Juvenile delinquency was generally higher in the urban communes, with the sole exception of Obrenovac in the suburban communes.

Health and welfare system

Health services

Belgrade has relatively well developed inpatient and outpatient health care. Health care is provided by a complex system including the following services distinguished by their function: basic health care, specialist–consultative services, hospital institutions and specialized institutes. All Belgrade inhabitants are entitled to free health care.

Basic health care. This is provided by the health centres that exist in all the communes. The same function is performed by institutions for the health care of special population groups (students, railroad workers, etc.) or of patients with special groups of disease (tuberculosis and lung diseases, venereal diseases).

Basic health care is provided by general practitioners, paediatricians, gynaecologists, specialists in occupational medicine and stomatologists. Over the past few years, mental health care has been provided as part of basic health care in health centres, and this has resulted in the rapid establishment of mental health dispensaries with various counselling services. Health centres can engage specialists in other fields as consultants. In addition, health centres have teams of visiting nurses who cover "micro-areas" with a population of several thousand. Home care of chronic somatic patients is also available and is provided by mobile teams consisting of physicians and nurses.

Specialist–consultative services. These are provided in both health centres and in hospitals. Over the past seven or eight years, the ratio of specialist examinations to other examinations was 1:3. The most frequent were consultations with specialists in internal medicine (21%), ophthalmologists (17%), otorhinolaryngologists (16%), surgeons (15%) and neuropsychiatrists (11%).

Hospital care. Belgrade has 12 388 hospital beds. Over 95% of the bed capacity is permanently occupied.

At the end of 1978, 1501 physicians (of whom 1152 were specialists) and 4766 other health workers worked in hospitals. There were 8.25 hospital beds per physician, while the corresponding figure for other medical personnel was 2.1.

In 1978 the average number of hospital days per 1000 population for the population of Belgrade was 1556 (96.7 hospital cases per 1000 population with an average length of stay of 16.1 days). Approximately 40% of the hospital beds are used by patients from outside Belgrade.

Personnel. On 30 September 1978, Belgrade had a total of 4588 physicians, of whom 871 were general practitioners, 3090 were specialists, 409 were residents, and 218 were interns.

Welfare system

All communes have social welfare centres providing assistance and care to various categories of patients and to other citizens. These centres are staffed by social workers, psychologists, pedagogues, lawyers and other professionals. They also provide aid to mental patients.

Within the communes, there are social organizations such as the Red Cross, and Associations for Support to the Sick and to Handicapped Persons and their Families.

The general health situation

The number of live births per 1000 population increased slightly from 14.6 in 1971 to 15.3 in 1978, having been stable since 1975. Infant mortality has decreased steadily from 29.1 per 1000 live births in 1971 to 22.9 in 1978. The number of deaths per 1000 population increased from 6.9 in 1971 to 7.3 in 1978. Table 3 shows the number of deaths in absolute numbers, rates per 100 000 population and in percentages of all deaths, by groups of diseases (cause of death). In 1978, the outpatient services in Belgrade carried out 2 184 518 patient examinations or 1.6 per person.

Table 3. Number of deaths, absolute and rate per 100 000 population, and as percentage of all deaths, by cause of death, 1978

Cause of death	Number	Rate per 100 000	Percentage of all deaths
Diseases of the circulatory system	5 583	399.1	54.5
Neoplasms	1 927	137.8	18.8
Accidents	592	42.3	5.8
Diseases of the respiratory system	426	30.4	4.1
Perinatal morbidity	383	27.4	3.7
Diseases of the digestive tract	334	23.9	3.2
Undefined conditions	314	22.4	3.1
Endocrine, metabolic and nutritional diseases	311	22.3	3.0
Diseases of the genitourinary system	231	16.5	2.2
Infectious and parasitic diseases	49	3.5	0.5
Other causes	96	6.9	0.9
Total	10 246	732.5	99.8

Mental health services

The mental health services have developed rather rapidly over the last 10–15 years. Staff were trained more rapidly than the services could be provided. The services have not yet been completely regionalized and assigned well-defined functions and catchment areas.

The outpatient services have been unevenly distributed and unequally developed. This has been particularly true for the outpatient services in the health centres, which are insufficiently developed, and to some extent also for those attached to the inpatient services, with the exception of the Institute for Mental Health.

The inpatient services are adequately staffed, but have not as yet been made sufficiently accessible to the population. The services need to be modernized and enlarged, especially those for the elderly and for alcohol- and drug-dependent patients.

There is also a lack of services, such as night hospitals and protected workshops, to help patients make the transition from hospital back to the community.

Home treatment of psychiatric patients is insufficiently developed, although the existence of the health centres, through which the home treatment of somatic patients is well organized, should make this possible.

Finally, there is a lack of specialized counselling centres for children, adolescents, the elderly, etc.

In order to improve the situation, a medium- and long-term plan for the further development of the mental health services in Belgrade has been adopted, which includes the following:

—regionalization and definition of catchment areas having 200 000–300 000 inhabitants for each of the five inpatient institutions to be responsible for the organization and integration of inpatient and outpatient care within their area;
—urgent development and strengthening of psychiatric services at the health centres; outpatient and follow-up care to be provided by one psychiatrist and one nurse per 20 000 population, and one psychologist and one social worker per 4000 population;
—development of counselling centres, home treatment and other activities, particularly for children, adolescents and the elderly, in order to make psychiatric care more accessible and acceptable to the population.

Each area service will be responsible for carrying out epidemiological studies designed to determine the needs of the population and to assess the degree to which these needs are met by the services provided.

A further renovation and modernization of the services and their staffing is also planned; this includes the provision of an additional 300 beds, which will make it possible to modernize the older inpatient facilities.

Existing facilities

Inpatient services

Inpatient treatment is provided by the services listed in Table 4 which, except for a section of the Dr Laza K. Lazarević Hospital and another of the Avala Hospital, which are located 18 km and 15 km, respectively, from the centre of Belgrade, are all in the centre.

Approximately 30% of mental hospital beds and 10% of all other mental institution beds are occupied by patients from outside the Belgrade area. If this is taken into account, as well as the fact that mainly chronic psychotic Belgrade patients are treated in the services shown in Table 5, the psychiatric bed/population ratio for Belgrade is 1 : 1000. Services for the mentally retarded, which exist both in Belgrade and in the provinces, are not included.

Day hospitals

A number of patients receive day care, mainly individual and group therapy and occupational therapy, in some of the services listed in Table 4. Table 6 shows the institutions and the number of day care places available. The day care facilities are open from 0800 to 1500, except on Sundays.

Table 4. Number of beds in neuropsychiatric institutions in Belgrade on 14 December 1980

Name of institution	Psychiatry	Neurology	Total
Dr Laza K. Lazarević Mental Hospital	765	—	765
Institute for Mental Health	94	—	94
Avala Neuropsychiatric Clinic	60	—	60
Dr Vladimir Vujić Neuropsychiatric Clinic	85	—	85
Jovan Jovanović-Zmaj Neuropsychiatric Clinic	12	33	45
Neuropsychiatric Clinic, Neurology Unit	—	142	142
Neuropsychiatric Department, Dr Dragiša Mišović Hospital	87	41	128
Institute for Neuropsychiatry of the Belgrade Clinical Hospital	31	29	60
Institute for Urgent Internal Disorders, Cerebrovascular Department	—	120	120
Institute for Children's Cerebral Paralysis	—	170	170
Total	1 133	535	1 668

Table 5. Number of Belgrade psychiatric patients being treated in mental hospitals in Vršac, Kovin and Kragujevac[a] on 14 December 1980

Name of institution	Number
Mental Hospital, Vršac	146
Mental Hospital, Kovin	208
Mental Hospital, Kragujevac	149
Total	503

[a] Vrsac, Kovin and Kragujevac are located 87, 50 and 100 km respectively from Belgrade.

Table 6. Number of day hospital places for psychiatric patients in Belgrade

Name of institution	Number
Day hospital of the Institute for Mental Health	85
Day hospital of the Avala Neuropsychiatric Clinic	35
Day hospital of the Dr Vladimir Vujić Neuropsychiatric Clinic	25
Day hospital of the Dr Dragiša Mišović Neuropsychiatric Clinic	30
Day hospital of the Psychiatric Clinic, Belgrade	60
Total	235

Outpatient services

Outpatient care is provided by a number of services, which differ in many ways, both in terms of the staffing structure and in the scope of the care offered. The services can be divided into six groups, as shown in Table 7.

Counselling services

Specialized counselling services are provided by the Institute for Mental Health for students, alcoholics, drug addicts, the elderly, families of schizophrenics, patients with psychosomatic conditions, children and adolescents, and by the Dedinje Hospital Centre for patients with neuroses, psychosomatic conditions, and psychoses, and adolescents. Both the Institute and the Centre also provide marriage counselling.

Staffing of the services

The total number of physicians, psychologists, social workers and nurses working in the Belgrade mental health services are shown in Table 8, by type of care provided.

Description of facilities and their functions

Dr Laza K. Lazarević Mental Hospital

This hospital was founded in 1865. The old part of the hospital is located in the centre of Belgrade and is part of the complex of clinics of the medical school. It has 365 beds, and the average duration of treatment is 200 days. The accommodation is of low standard. The other part of the hospital was built 23 years ago and is located at a distance of 18 km from Belgrade. This part has 400 beds and the average duration of treatment is 90 days. The accommodation is relatively good. The Centre for Rehabilitation of Psychotic Patients with 200 beds and the Department for Alcoholics with 50 beds are also situated in this part of the hospital. In 1982 the hospital was being modernized, outpatient services were being developed and a day hospital opened. It was expected that the accommodation in the part of the hospital located in the city centre would be improved by the end of that year, when other buildings would be available.

Institute for Mental Health

This Institute is a modern psychiatric institution in the centre of Belgrade which was founded in 1963; it has clinical departments for adults (74 beds) and for children (20 beds) and a day hospital (85 places). The average duration of treatment is 42 days. All patient categories are admitted. Outpatient services for adults, children,

Table 7. Outpatient services by category of institution or service, and their staffing, by profession

Category of institution or service	Number of services per category	Number of physicians and other staff					
		Specialists in neuro-psychiatry	Neuro-psychiatric residents	Psycho-logists	Social workers	Nurses	
						Advanced	Intermediate
Health centre dispensaries	14	33		18	12	9	15
Dispensaries of inpatient psychiatric institutions	11	40	1	10	14	15	22
Neuropsychiatric dispensaries of other institutions	4	4		3	1		3
Outpatient services for alcoholism	9	9		4	9	1	4
Children and youth counselling centres	3	3		4	2		1
Dispensaries for epilepsy	9	9	1	2	1	3	13
Total	50	98	2	41	39	28	58

Table 8. Numbers of physicians and other staff in neuropsychiatric institutions and services in Belgrade

Type of care		Profession					
		Specialists in neuropsychiatry	Neuropsychiatric residents	Psychologists	Social workers	Nurses	
						Advanced	Intermediate
Inpatient care	Number	207	37	37	33	124	414
	%	67.9	94.9	47.4	45.8	91.6	87.7
Outpatient care	Number	98	2	41	39	28	58
	%	32.1	5.1	52.6	54.2	18.4	12.3
Total		305	39	78	72	152	472

adolescents and epileptics are being developed. The Institute serves as a teaching unit for the medical and other schools (the School of Arts, etc.). Both individual and group psychotherapy are used. It is also the Centre for Psychiatric Epidemiological Investigations and since 1 January 1965 has kept a register of all psychotic inpatients and outpatients in the Belgrade area. The Institute offers postgraduate courses in social psychiatry and psychotherapy.

Avala Neuropsychiatric Clinic

This clinic is a part of the neuropsychiatric clinic of the medical school and is located 15 km from Belgrade. It serves as a teaching unit for medical students and students of psychology. It was built 33 years ago, and accommodation is good. The clinical department has 60 beds for all patient categories, the average duration of treatment being 35 days. There is also a day hospital with 35 places. Both individual and group psychotherapy are used. Postgraduate courses in psychotherapy for physicians and psychologists are offered.

Dr Vladimir Vujić Neuropsychiatric Clinic

This clinic is equipped with 85 beds for all patient categories, the average duration of treatment being 32 days. There is also a forensic psychiatry unit and a day hospital with 25 places. Research is carried out, in particular on the effects of psychotropic drugs, and individual and group psychotherapy are used in this part of the neuropsychiatric clinic. In addition, a 24-hour "dial in for help" service is provided to prevent suicides and to assist in dealing with other personal crises.

Jovan Jovanović-Zmaj Neuropsychiatric Clinic

The building occupied by the Clinic is new and the accommodation is good. It is part of the neuropsychiatric clinic for children and adults, and has 33 beds for neurological inpatients and 12 beds for psychiatric inpatients. The average duration of treatment is 60 days. It serves as a teaching unit for medical students.

Patient census and cohort study

Patient census

The census of all inhabitants of Belgrade receiving inpatient care in the area services was carried out on 31 December 1981, the census of day patients on 14 December 1980, and the outpatient census over the period 14–20 December 1980.

The censuses together included 6908 patients, with equal numbers of males and females (5.7 patients per 1000 population). There were 1232 inpatients (671 males and 561 females), 219 day patients (114 males and

105 females) and 5457 outpatients (2669 males and 2788 females). As can be seen, there was a slightly higher proportion of males among the inpatients (54 %) and day patients (52 %), while 51 % of the outpatients were females.

Of the inpatients, 52 % of the males were aged 25–44 years, 35 % were 45–64 years, and 6 % were 65 years or over. The corresponding figures for the females were 46 %, 35 % and 12 % respectively. By marital status, 42 % were married (44 % of the males and 40 % of the females), 37 % were single (41 % of the males and 32 % of the females), and 16 % were divorced (13 % of the males and 19 % of the females). A total of 434 or 35 % had stayed one month or less in hospital (36 % of the males and 34 % of the females), 444 or 36 % had stayed one to three months (38 % of the males and 34 % of the females), 67 or 5 % had stayed 4–12 months (6 % of the males and 5 % of the females), 25 or 2 % had stayed one to two years, 64 or 5 % had stayed three to four years, and 198 or 16 % had stayed five years or more (14 % of the males and 19 % of the females) By diagnosis, 32 % were schizophrenic (30 % of the males and 35 % of the females), 19 % were alcoholics (32 % of the males and 2 % of the females), 14 % had other psychoses (10 % of the males and 18 % of the females), 11 % were neurotics (8 % of the males and 15 % of the females), and 10 % had organic psychoses (12 % of the males and 8 % of the females).

Of the day patients, 68 % were aged 25–44 years and 32 % were 45–64 years. Of the females, 60 % were aged 25–44 years and 32 % were 45–64 years. By diagnosis, 39 % were neurotics (32 % of the males and 47 % of the females), 24 % alcoholics (38 % of the males and 9 % of the females), and 17 % schizophrenics (15 % of the males and 20 % of the females).

Of the outpatients, 45 % were aged 25–44 years, 33 % were 45–64 years, and 6 % were 65 years or over. By marital status, 64 % were married, 26 % single and 6 % divorced. By diagnosis, 35 % were neurotics (28 % of the males and 42 % of the females), 12 % alcoholics (18 % of the males and 6 % of the females), 8 % schizophrenics (8 % of the males and 7 % of the females), and another 35 % were classified under all other (non-psychiatric) diagnoses (35 % of the males and 35 % of the females).

Description of the cohort

The 200 patients in the cohort all lived in the Stari Grad commune, which is one of the central communes of Belgrade with approximately 77 000 inhabitants and is also where the Institute for Mental Health is situated. As the Institute has well-developed outpatient services, including different types of counselling, and a day hospital and inpatient department, it is not likely that more than a very small number of patients from Stari Grad would go to other services in the city.

All "new" adult patients (over 18 years of age) from the Stari Grad commune who entered the services of the Institute for Mental Health between 2 January 1980 and 2 October 1980 were followed up for two years. As far as can be ascertained, these cases had had no previous contact with the psychiatric services. Tables C1 and C2 and Fig. C1 contain data on the age, sex, marital status and diagnosis of the cohort. As in all cohorts, there are more females (62.5%) than males (37.5%). By age, 63% are 44 years or younger (68% of the males and 62% of the females), 23.5% are 45–64 years (21% of the males and 25% of the females), and 13% are 65 years or over (11% of the males and 14% of the females). The number of married patients is more than 2.5 times that of single patients (1.8 times for the males and 3.3 times for the females). By diagnosis, the largest category is neurosis and personality disorders with 138 or 69% (55% of the males and 78% of the females), followed by 19 or 9.5% with alcohol and drug dependence (21% of the males and 2% of the females), and 14 or 7% with organic psychoses (7% of the males and 7% of the females).

Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 200) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Single	M		1.5	3.0	6.5	0.5	0.5			12.0
	F		1.5	3.0	5.5	1.5	0.5			12.0
Total			3.0	6.0	12.0	2.0	1.0			24.0
Married	M				13.0	6.0		2.5		21.5
	F			2.5	24.0	10.0	3.5			40.0
Total				2.5	37.0	16.0	3.5	2.5		61.5
Widowed	M					0.5		1.0		1.5
	F					1.5	2.5	2.0		6.0
Total						2.0	2.5	3.0		7.5
Divorced/ separated	M				1.5	1.0				2.5
	F				1.5	2.5		0.5		4.5
Total					3.0	3.5		0.5		7.0
Total	M		1.5	3.0	21.0	8.0	0.5	3.5		37.5
	F		1.5	5.5	31.0	15.5	6.5	2.5		62.5
Grand total			3.0	8.5	52.0	23.5	7.0	6.0		100.0

Types of contact at first entry

Tables C3–C5 and Fig. C2 show that 95% of the cohort entered as outpatients. Any comparison with the census data should therefore be with the outpatients. Such a comparison shows that in the cohort 49% were aged 25–44 years, as compared with 45% in the census, 23% were 45–64 years, as compared with 33% in the census, and 13% were 65

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25–44	45–64	≥65	
Organic psychoses	M				5	5
	F	1		1	7	9
Total		1		1	12	14
Schizophrenia and paranoid states	M	1				1
	F		1	2	1	4
Total		1	1	2	1	5
Affective psychoses	M					
	F			1		1
Total				1		1
Other psychoses	M	1	1		1	3
	F	2	1	2	1	6
Total		3	2	2	2	9
Neurosis and personality disorders	M	4	26	10	1	41
	F	10	56	24	7	97
Total		14	82	34	8	138
Alcohol and drug dependence	M	2	13	1		16
	F	1	1		1	3
Total		3	14	1	1	19
Mental retardation	M	1	1	2		4
	F					
Total		1	1	2		4
Other	M		1	3	1	5
	F		3	1	1	5
Total			4	4	2	10
No psychiatric diagnosis	M					
	F					
Total						
Total	M	9	42	16	8	75
	F	14	62	31	18	125
Grand total		23	104	47	26	200

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 200) (See also Table C1)

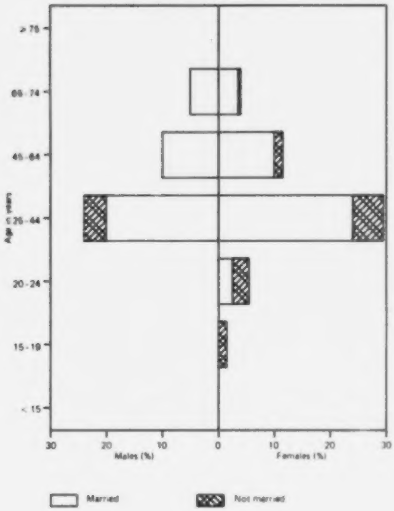


Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

		Type of contact at entry	
Sex	N = 100%	Outpatient	Inpatient
Males	75	94.7	5.3
Females	125	95.2	4.8
Total	200	95.0	5.0

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

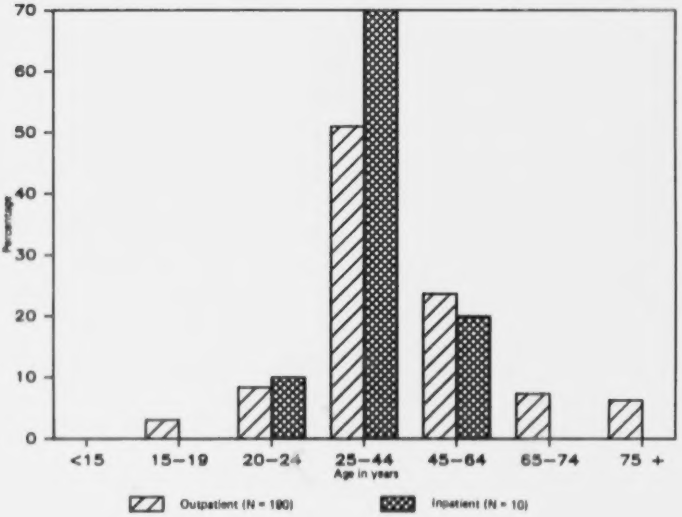
Type of contact	Age in years								Total
	<15	15–19	20–24	25–44	45–64	65–74	75–84	≥85	
Outpatient		6	16	97	45	14	12		190
Inpatient			1	7	2				10
Total		6	17	104	47	14	12		200

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis* 1	2	3	4	5	6	7	8	9	10	Total
Outpatient	14	3	1	8	134	16	4	4	6		190
Inpatient		2		1	4	3					10
Total	14	5	1	9	138	19	4	4	6		200

* The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



years or over, as compared with 6% in the census. Marital status was very similar in the cohort and the census. By diagnosis, 67% of the cohort were neurotics, as compared with 35% of the census, a difference which can only be explained by the data in Table C6, which show that 30% of the neurotics had only one outpatient contact and that another 33% of them had contacts for less than three months.

Types of contact during the first year

Table C6 further shows that 30% of the cohort had one outpatient contact only, 32% received outpatient care for less than three months, and 30% received outpatient care for more than three months (80% of these less than once every two weeks). Apart from 18 patients (six alcoholics, two schizophrenics, one with organic psychosis, two with other psychoses, six neurotics, and one mentally retarded), the remainder received outpatient care only.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100%
	1	2	3	4	5	6	7[b]	1–5	6–7	
Organic psychoses	21	7	36	29			7	93	7	14
Schizophrenia and paranoid states			20	20	20		40	60	40	5
Affective psychoses				100				100	0	1
Other psychoses	11		33	11	22		22	78	22	9
Neurosis and personality disorders	30	7	26	27	5		4	96	4	138
Alcohol and drug dependence	21		26	16	5		32	68	32	19
Mental retardation	50	25					25	75	25	4
Other	100							100	0	4
No psychiatric diagnosis	67		17	17				100	0	6
Not known										
Total	30	6	26	24	6		9	91	9	200

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact
[b] Including 8 day patients who have not been inpatients.

Percentage of patients and types of contact during the follow-up episodes of care

The most important features of Tables C7 and C8 and Fig. C3 are that 91% of the cohort received outpatient care only and that none became chronic users. After two weeks, 41% had no further contact with the services, after six months 68% had left, and after 18 months only 8% of the cohort were still using the services.

Caseload features

Table C9 shows clearly that the heaviest burden falls on the services during the first two weeks. In absolute numbers, the burden is stable

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	50	50	57	57	64	71	86	14
Schizophrenia and paranoid states	0	0	0	0	40	40	60	5
Affective psychoses	0	0	0	0	0	0	100	1
Other psychoses	22	44	44	44	44	67	78	9
Neurosis and personality disorders	40	46	53	60	70	84	93	138
Alcohol and drug dependence	42	47	533	58	74	95	100	19
Mental retardation	50	50	75	75	75	100	100	4
Other	100	100	100	100	100	100	100	4
No psychiatric diagnosis	67	67	67	67	67	83	100	6
Total	41	47	53	58	68	82	92	200

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses	57.1	35.7				7.1			14
Schizophrenia and paranoid states	20.0	40.0		20.0		20.0			5
Affective psychoses		100.0							1
Other psychoses	44.4	33.3				22.2			9
Neurosis and personality disorders	74.6	21.0			0.7	3.6			138
Alcohol and drug dependence	52.6	15.8	10.5		10.5	10.5			19
Mental retardation	75.0								4
Other	100.0					25.0			4
No psychiatric diagnosis	83.3	16.7							6
Total	69.0	22.0	1.0	0.5	1.5	6.0			200

[a] Episodes of care:

1 = **Outpatient, short**

Some outpatient contacts, but no "long episode", i.e. comprising six contacts or more.

2 = **Outpatient, medium or long but not chronic**

One or more long episodes and some isolated outpatient contacts. The different types of long episodes are characterized by the following averages:

	Type 1	*Type 2*	*Type 3*	*Type 4*
Number of events	9	8	29	11
Length	96 days	238 days	450 days	146 days
Average interval between two events	10 days	35 days	17 days	16 days
Maximum interval	22 days	66 days	61 days	58 days
Concentration	0.33	0.33	0.34	0.62

or
One "stay" in day hospital, of less than 86 days, and several long or short outpatient episodes. The total care duration is less than 350 days.

3 = Inpatient, short
One "stay" in hospital, of less then 42 days, and some isolated outpatient contacts.

4 = Inpatient, medium or long but not chronic
One stay in hospital, of 73 days, and some isolated outpatient contacts.

5 = Mixed types of care, short
One stay in hospital, of less than 42 days, and some outpatient contacts.

6 = Mixed types of care, medium or long but not chronic
One or more stays in hospital and one long outpatient episode of types 1, 2 and 4 (see above).

7 = Chronic
No patient.

8 = Not classified elsewhere
No patient.

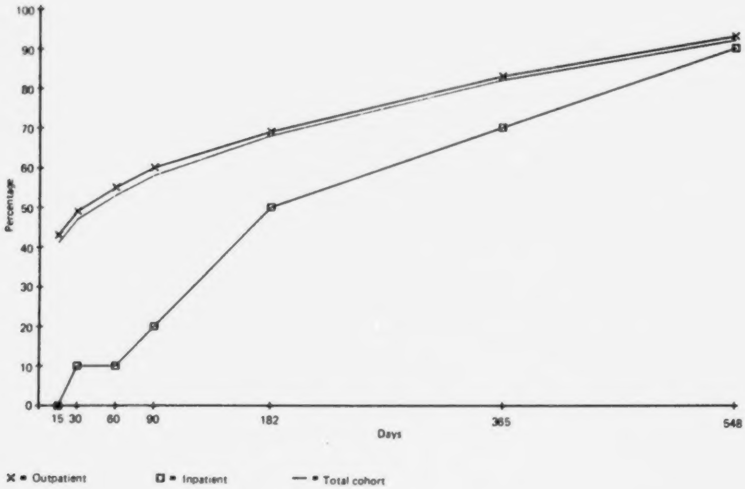
Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients		
	1	2	1+2	Outpatient	Day patient	Beds
0–15	190	2	8	81.2	3.7	2.1
16–30	58	9	1	22.7	1.7	2.7
31–60	53	4	4	13.1	1.0	1.4
61–90	47	4	1	9.2	0.9	1.0
91–182	56	1	3	6.4	0.4	0.2
183–365	47	1	2	3.7	0.3	0.2
366–548	28	0	1	2.3	0.1	0.0
549–730	15	0	0	1.2	0.0	0.0
First year	182	0	18	9.6	1.1	0.5
Second year	34	0	1	1.7	0.1	0.0
First and second year	182	0	18	5.6	0.6	0.3

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

from 16 to 365 days and then declines, while measured in contacts per week and number of beds occupied per week per 100 patients, there is a steady decrease.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



Zagreb, Yugoslavia

The pilot study area

General and geographical information

The pilot study area, the Maksimir commune, is situated in the north-eastern part of the city of Zagreb, spreading out towards the north-east up to the foothills of the Zagreb mountains, whose eastern slopes it also covers. The southern part of Maksimir forms part of the older urban core of Zagreb and is highly urbanized; it was largely completed between the two world wars. The less densely populated eastern and north-eastern parts of the pilot study area have mainly been built up after the Second World War, following the rapid population increase which took place in Zagreb, as in most Yugoslav cities during this period. Zagreb, the capital of the Socialist Republic of Croatia, is situated in the north-western continental part of this Republic, on the western rim of the Panonian lowlands, approximately 200 km from the Adriatic. The climate is moderate continental. Zagreb has all the characteristics of a central European city and is an important industrial, cultural and educational centre.

The large influx of people, not only from other parts of Croatia but also from other parts of Yugoslavia, created the types of problem also met elsewhere during such phases, namely housing problems, adaptation problems for the immigrants, and difficulties in meeting the increased health and educational demands. Most of these problems have been overcome, and the pilot study area benefits from a well-developed communications system and from the cultural, educational, recreational and economic facilities of the city of Zagreb.

Sociodemographic profile

Population by age and sex

In 1981, Maksimir had a total population of 62 963 with slightly more females (33 650 or 53.4 %) than males (46.6 %). Nearly one-fifth (17.7 %) was under 15 years of age and 13.9 % were 65 years or over (11.4 % of the males and 16.2 % of the females) (see Table 1).

Employment and main economic activities

In 1981, 27 239 inhabitants of Maksimir were economically active, or

Table 1. Population by sex and age, absolute and as a percentage of total population, 1981

Sex	Age in years					Total
	< 15	15–24	25–44	45–64	≥ 65	
Absolute						
Males	5716	3954	9320	6984	3339	29313
Females	5425	4457	9820	8507	5441	33650
Total	11141	8411	19140	15491	8780	62963
Percentage						
Males	9.1	6.3	14.8	11.1	5.3	46.6
Females	8.6	7.1	15.6	13.5	8.6	53.4
Total	17.7	13.4	30.4	24.6	13.9	100.0

63% of the population aged between 15 and 64 years (72% of the males and 55% of the females). Of the economically active, 4761 or 33% of the males and 6598 or 52% of the females were employed.

These figures reflect the situation in the pilot study area, which lacks any major industry, although textile, metal and food industries do exist. Most of the inhabitants are engaged in trade, services or catering. There is a flourishing population of artisans and craftsmen in the area as well as catering services. The remainder of the population is employed in Zagreb itself, mainly in services.

Population distribution and housing

The pilot study area is predominantly urban, with suburban and rural pockets in the north-eastern parts. In the southern part of the area, which forms part of the urban core of Zagreb, there is a predominance of elderly people living in the oldest flats in the city, built around the turn of the century. The northern and eastern parts of the area are still dominated by relatively new single-family houses interspersed with blocks of modern flats. The housing is of a fairly high standard, electricity, water and toilet facilities being available in most residential areas.

Main ethnic and religious groups

The indigenous population of the pilot study area has incorporated migrants from other parts of Croatia over the last three decades with few or no problems. Migrants from other parts of Yugoslavia with different cultural patterns and attitudes, although constituting only a small fraction of the population in the area, have created problems at times in the organization of services because of adaptation difficulties.

Indicators of social stability

No data are available specifically for the Maksimir area, but there is nothing to indicate a lower level of social stability in this part of Zagreb as compared with the rest of the city.

Health and welfare system

Zagreb has a relatively well developed health and social welfare system. While some of the services (especially inpatient services) are organized at city level, outpatient services and social welfare services are organized mainly at the level of the commune. Thus, the care of the elderly, including visits and referral, is a responsibility of the commune, as it is for both school- and preschool children. All public services are virtually free of charge.

Health services

The city of Zagreb has a uniform system of health care organized at the following three levels:

(1) *Basic health care*. This is provided by the health centres which exist in every commune. These health centres provide comprehensive outpatient care to the population of each commune. Apart from surgeries, each centre provides services for tuberculosis, child and school health, occupational health, as well as obstetrics and gynaecology and venereal diseases. For those health centres where mental health consultations are not already available, plans are in existence for them to be provided and, in the meantime, close collaboration exists with the psychiatric hospitals and psychiatric departments of general hospitals. All preventive work is also carried out by these health centres.

(2) *Specialist–consultative services*. These services are provided both by the health centres and by hospital outpatient departments, patients having the right to go to any such department in the city of Zagreb.

(3) *Hospital care*. Zagreb has four general hospitals with a total of 4050 beds, or 5.3 beds per 1000 population, and two psychiatric wards with 184 beds (or 0.24 per 1000 population). There are also two psychiatric hospitals with a total of 1304 beds (or 2.5 per 1000 population).

In Maksimir, the psychiatric outpatient clinic recorded 25 920 consultations in 1981. The area has 44 general practitioners, six psychiatric social workers and three public health nurses.

The general health situation

The general health situation of the area is very much the same as that of the city of Zagreb or slightly better. The five leading causes of death are diseases of the circulatory system; neoplasms; accidents; diseases of the respiratory system; and perinatal disease.

Mental health services

The psychiatric services of Croatia have a total of 5948 hospital beds (or 1.3 per 1000 inhabitants), and in 1977 these hospitals employed 216 full-time psychiatrists.

A general problem in the psychiatric services in Croatia is the distribution of psychiatrists between the hospitals (inpatient services) and the health centres (outpatient facilities). In 1977, only 40 psychiatrists were employed in outpatient facilities, giving a ratio of psychiatrists in outpatient as compared with inpatient facilities of 1:5.4. However, practically all psychiatrists working in inpatient settings also provide outpatient care on a part-time basis and 28 of them are engaged in full-time outpatient care in the outpatient departments (polyclinics) of the mental hospitals.

Existing facilities

Inpatient services are provided predominantly by the University Psychiatric Clinic, but the Vrapče Psychiatric Hospital, situated not far from Zagreb, the Jankowiz Psychiatric Hospital and the psychiatric department of the M. Stovanović General Hospital also receive patients from the pilot study area.

Outpatient services are also provided at the above hospitals and at the Dom Zdrava Health Centre in the pilot study area. In addition, the University Psychiatric Department operates a special hospital for children and adolescents and a mental health (outpatient) centre. Both the mental health centre and the health centres operate on a team basis, each team having at least one psychiatrist, one qualified nurse, one public health nurse (health visitor), one psychologist and one social worker. Some of the health centres have two or more teams, in which case each team specializes in a particular field, for example, children and adolescents, addictions, etc. The main aim is the provision of comprehensive care, the health centre teams providing outpatient care and follow-up after inpatient treatment.

The mental health centre in Maksimir is divided into two sections, one for children and adolescents and one for adult psychiatric cases. Thus the centre has two teams, each with two psychiatrists, two social workers, two qualified nurses and one psychologist, and is open from 0730 until 20.00.

Patient census and cohort study

Patient census

A new patient census covering the patients from the Maksimir area was not carried out. However, from the 1973 census, it is known that many of the patients from the area attend services other than those attached to the University Psychiatric Clinic. At the time 80, or 0.66 per 1000 population, were inpatients and 86, or 0.70 per 1000 population, were outpatients, while 34 inpatients had been in hospital for one year or more (0.3 per 1000 population) and there were 970 admissions during 1973.

Cohort study

Only the inpatient and outpatient services of the Zagreb University Psychiatric Clinic participated in this study. The 20 consecutive cases aged 15 years or over entering these services during one month in 1980 are a representative of the patients from Maksimir making use of these services.

Tables C1 and C2 and Fig. C1 show the composition of the cohort by age, sex, marital status and diagnosis. There were equal numbers of males and females, the males being slightly older than the females, while

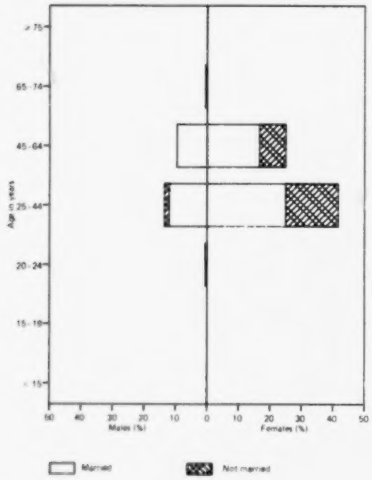
Table C1. Cohort by sex, age and marital status, in percentages of total cohort (N = 20) (see also Fig. C1)

Marital status	Sex	Age in years								Total
		<15	15-19	20-24	25-44	45-64	65-74	75-84	≥85	
Single	M				4.0					5.0
	F				10.0	5.0				15.0
Total					15.0	5.0				20.0
Married	M				20.0	10.0	5.0			35.0
	F				15.0	10.0				25.0
Total					35.0	20.0	5.0			60.0
Widowed	M					5.0				5.0
	F				5.0					5.0
Total					5.0	5.0				10.0
Divorced/ separated	M					5.0				5.0
	F				5.0					5.0
Total					5.0	5.0				10.0
Not known	M									
	F									
Total										
Total	M				25.0	20.0	5.0			50.0
	F				35.0	15.0				25.0
Grand total					60.0	35.0	5.0			100.0

Table C2. Cohort by diagnosis, sex and age

Diagnosis	Sex	Age in years				Total
		<25	25-44	45-64	≥65	
Organic psychoses	M		1	1		2
	F					
Total			1	1		2
Schizophrenia and paranoid states	M		1			1
	F		6	1		7
Total			7	1		8
Affective psychoses	M			1		1
	F			1		1
Total				2		2
Other psychoses	M					
	F					
Total						
Neurosis and personality disorders	M			1		1
	F		1	1		2
Total			1	2		3
Alcohol and drug dependence	M		3	1		4
	F					
Total			3	1		4
Mental retardation	M					
	F					
Total						
Other	M				1	1
	F					
Total					1	1
No psychiatric diagnosis	M					
	F					
Total						
Total	M		5	4	1	10
	F		7	3		10
Grand total			12	7	1	20

Fig. C1. Cohort by age, sex and marital status, in percentages of total cohort (N = 20) (See also Table C1)



60% of the cohort were married and 20% single. The males were married (70%) more often than the females (50%). The majority of the cohort (12, or 60%) suffered from psychoses, the largest diagnostic group being schizophrenia and paranoid states (eight or 40%), nearly all (seven) being females. All patients with organic psychosis (two) and addictions (four) were males.

Types of contact at first entry

Tables C3–C5 and Fig. C2 show that 55% (11) of the cohort entered as outpatients. Of the 45% (nine) entering as inpatients, 67% were schizophrenics. Of those entering as outpatients, 72% were married, while this was only the case for 44% of those entering as inpatients.

Table C3. Cohort by types of contact at first entry and sex, in percentages of N in each sex category

Sex	N = 100%	Type of contact at entry	
		Outpatient	Inpatient
Males	10	60.0	40.0
Females	10	50.0	50.0
Total	20	55.0	45.0

Table C4. Cohort by types of contact at first entry and age (see also Fig. C2)

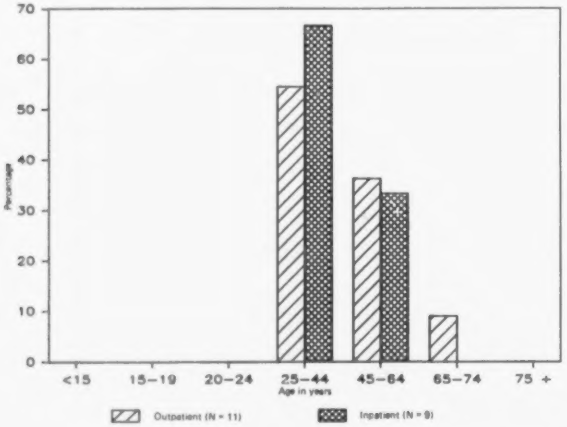
Type of contact	Age in years								Total
	<15	15-19	20-24	25-44	45-64	65-74	75-84	⩾85	
Outpatient				6	4	1			11
Inpatient				6	3				9
Total				12	7	1			20

Table C5. Cohort by types of contact at first entry and diagnosis

Type of contact	Diagnosis[a]										Total
	1	2	3	4	5	6	7	8	9	10	
Outpatient	2	2	1		2	3		1			11
Inpatient		6	1		1	1					9
Total	2	8	2		3	4		1			20

[a] The following diagnostic groups have been used:
1 = organic psychosis
2 = schizophrenia and paranoid states
3 = affective psychosis
4 = other psychosis
5 = neurosis and personality disorders
6 = alcohol and drug dependence
7 = mental retardation
8 = other
9 = no psychiatric diagnosis
10 = not known

Fig. C2. Cohort by types of contact at first entry and by age, as percentages of N in each type of contact (see also Table C4)



Types of contact during the first year

Table C6 shows that 35 % of the cohort had only outpatient care. These patients had mainly neurosis and personality disorders (two) and alcohol and drug dependence (two). All those with organic psychoses and 88 % (seven) of those with schizophrenia had both inpatient and outpatient care, but it should be remembered that outpatient care is also extensively used as follow-up after a hospital stay.

Table C6. Cohort by types of contact during the first year, by diagnosis, in percentage of N in each diagnostic group

Diagnosis	Type of contact[a]									N = 100 %
	1	2	3	4	5	6	7	1–5	6–7	
Organic psychoses						50	50	0	100	2
Schizophrenia and paranoid states			13			38	50	13	88	8
Affective psychoses				50			50	50	50	2
Other psychoses										
Neurosis and personality disorders				67		33		67	33	3
Alcohol and drug dependence			50			25	25	50	50	4
Mental retardation										
Other				100						1
No psychiatric diagnosis										
Total			15	20		30	35	35	65	20

[a] Types of contact:
1 = one outpatient contact only
2 = outpatient contact less than once every two weeks for a period of less than three months
3 = outpatient contact every two weeks for a period of less than three months
4 = outpatient contact less than once every two weeks for three months or more
5 = outpatient contact every two weeks for three months or more
6 = admission with no more than one outpatient contact
7 = admission combined with more than one outpatient contact

Percentage of patients and types of contact during the follow-up episodes of care

Tables C7 and C8 and Fig. C3 show that, after two months, 25 % of the cohort were no longer in contact with the services and, after six months, this figure had risen to 45 %. After 18 months, 85 % of the cohort were no longer in contact. The 10 % of the cohort who became chronic users were one patient with organic psychosis and one with schizophrenia.

Caseload features

Table C9 shows that, for the outpatients, the heaviest burden on the services falls within the first two weeks after entry. For the inpatients, the burden is heaviest during the first two to three months.

Table C7. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by diagnosis

Diagnosis	Percentage with no more contact after . . . days[a]							N = 100%
	15	30	60	90	182	365	548	
Organic psychoses	0	0	0	0	50	50	50	2
Schizophrenia and paranoid states	0	13	13	13	25	38	88	8
Affective psychoses	0	0	0	0	0	50	100	2
Other psychoses								
Neurosis and personality disorders	0	0	33	33	67	67	67	3
Alcohol and drug dependence	25	50	75	75	100	100	100	4
Mental retardation								
Other	0	0	0	0	0	100	100	1
No psychiatric diagnosis								
Total	5	15	25	25	45	60	85	20

[a] The percentages are horizontally cumulative, i.e. at each successive point in time an increasing number of patients have left the service.

Table C8. Episodes of care during the two-year follow-up period, by diagnosis, in percentages of N in each diagnostic category

Diagnosis	Episodes of care[a]								N = 100%
	1	2	3	4	5	6	7	8	
Organic psychoses			50.0				50.0		2
Schizophrenia and paranoid states	13.0			25.0		50.0	13.0		8
Affective psychoses		50.0				50.0			2
Other psychoses									
Neurosis and personality disorders		66.7	33.3						3
Alcohol and drug dependence	50.0		25.0			25.0			4
Mental retardation									
Other		100.0							1
No psychiatric diagnosis									
Total	15.0	20.0	15.0	10.0		30.0	10.0		20

[a] Episodes of care:

1 = **Outpatient, short**
Within the first two months, 2–4 outpatient contacts.

2 = **Outpatient, medium or long but not chronic**
One or more long episodes with more than six outpatient contacts: *or* several short outpatient episodes.

3 = **Inpatient, short**
One "stay" in hospital, of less than 32 days.

4 = **Inpatient, medium or long but not chronic**
One stay in hospital, of between 100 and 115 days.

5 = **Mixed types of care, short**
No patient.

6 = **Mixed types of care, medium or long but not chronic**
One stay in hospital, of between 63 and 129 days, with 2–8 outpatient contacts.

7 = **Chronic**
One stay in hospital, of more than 365 days.

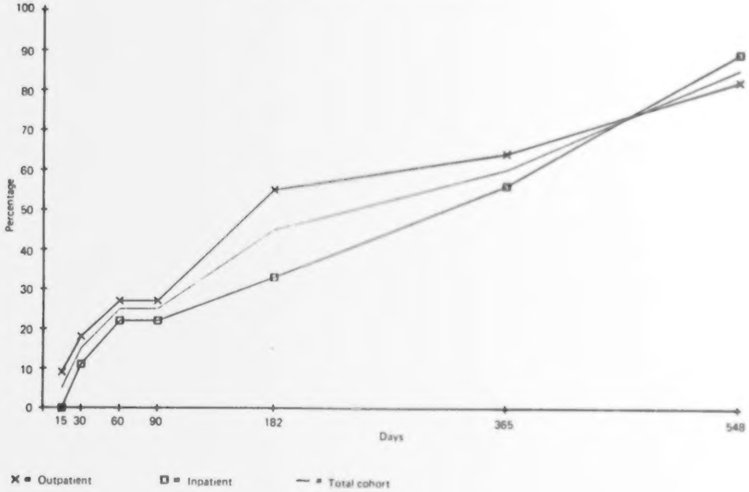
8 = **Not classified elsewhere**
No patient.

Table C9. Caseload features: number of patients receiving care during successive periods, by types of care; number of contacts per week and number occupied per week of day or night places or beds per 100 patients

Successive periods (days)	Number of patients having:[a]			Contacts per week per 100 patients	
	1	2	1+2	Outpatient	Beds
0–15	11	9		46.7	45.0
16–30	3	9	1	9.3	43.3
31–60	4	8	1	7.0	38.2
61–90	3	7	1	4.7	26.5
91–182	6	4	2	5.0	11.0
183–365	6	2	2	4.0	14.4
366–548	3	2	1	1.3	6.1
549–730	1	1	1	0.4	6.1
First year	7	5	8	6.5	18.9
Second year	4	2	2	0.9	6.1
First and second year	7	3	10	3.7	12.5

[a] These three columns show the actual number of patients receiving care in the successive periods. 1 = outpatient care; 2 = day and/or night and/or inpatient care; 1 + 2 = mixed care.

Fig. C3. Percentages of patients with no more contacts after preselected moments during the two-year follow-up period, by type of first contact



Annex

Instructions and data sheets for the cohort study

1. Demographic and social data

Instructions 1

On this data sheet you are asked to provide information relevant from mental health planning and administration in your area. This information is to be considered as background data or as the context in which the mental health services operate. Although most of this information may be represented in numerical and/or tabular format, very often it is not available in this format or the available numerical information is inaccurate, incomplete, or obsolete (particularly if many years have elapsed since the last population census was carried out). Therefore it may be more suitable to discuss the related items in a narrative way. It is important to note that the items listed below are examples. The list may be extended, shortened or modified to adapt it to the local conditions.

There is a logical connexion between the socio-demographic items to be asked during the census and the cohort study and those asked on this data sheet. Core items are sex, age and marital status. The corresponding tables for the study area as a whole represent the denominator data in order to compare the recipients of mental services with the general population of the study area. Additional items may be added in a particular country (area) situation. However it is important that only those socio-demographic items are included in the census or the cohort study for which the corresponding population data are available for the study area as a whole or vice-versa.

1.1 *Area identification number*—Please enter the code for the pilot study area according to the following list:

Aberdeen	161	Mannheim	071
Athens	081	Mistelbach	011
Belgrade	171	Nottingham	162
Brussels	022	Oslo	121
Dublin	091	Paris 7	061
El Ferrol	141	Paris 13	062

Geneva	152	Leuven	021
Groningen	111	Randers	041
Iaşi	131	Tampere	051
Leganes	142	Trieste	101
		Zagreb	172

1.2 Population by age and sex, absolute and in per cent of total population.

1.3 Please provide a brief narrative of the pilot study area. The narrative should include the following information (for each item compared to that of the country as a whole):

1.3.1 Geographic information on the size and configuration of the area, urban/rural development, communications, climate etc.

1.3.2 Sociodemographic profile including information on:

  1.3.2.1 Population by sex and age, and marital status

  1.3.2.2 Population by sex, age and type of activity (labour force status)

  1.3.2.3 Housing situation in terms of availability of amenities like piped water, gas or electricity, water flush toilets etc. and in terms of overcrowding i.e. persons per room.

  1.3.2.4 Distribution of urban/rural residence within the area.

  1.3.2.5 A description of predominant ethnic or religious groups, whether there are significant minority groups whose demand on services differ from the predominant groups. Please include also here information on migrant workers.

  1.3.2.6 A description of the main industries in the area and of the present employment situation. If possible a few lines about the area situation compared with that of the country as a whole.

1.3.3 A description of the social stability in the area compared to the country as a whole. Certain indices may be helpful such as:

—the suicide rate
—the level of juvenile delinquency
—the level of alcoholism and drug abuse
—the level of registered criminality with violence
—the homicide rate
—the percentage of the population in prison.

1.3.4 Please give in a descriptive form an account of the health services available in your area. Please include the emphasis in policy on distribution between in and outpatient services and the constraints that exist. Are the services paid by public funds and/or health and social insurance schemes? Please give an account of the coverage of the population by health insurance schemes and whether coverage is different for psychiatric disorders compared to somatic disorders.

Please provide in tabular form the following information:

	No.	No. of beds	Beds per 1000 population
General hospitals			
Psychiatric wards in general hospitals			
Psychiatric hospitals			
Institutions for the mentally retarded			
Outpatient clinics		No. of consultations per year	

	No.	No. per 1000 population
General practitioners		
Psychiatrists in private practice		
Psychiatric social workers		
Public health nurses		

1.3.5 Mortality/morbidity data. In order to give a general picture of the health situation in your area you should also include information on:
- —infant mortality
- —life expectancy at age 1
- —five leading causes of death
- —selected indicators of morbidity if available.

Data sheet 1

1.1 Area identification number ☐☐☐

1.2 Population at . . . . Census

Population by age and sex, absolute and as a percentage of the total population

Absolute

Sex/Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	All Ages
Male																			
Female																			
Total																			

Per Cent

Sex/Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	All Ages
Male																			
Female																			
Total																			100

1.3 Description of Pilot Study Area:

(Please provide the description of your area according to the instructions on pages attached to this, each marked with the area identification number).

1.3.2.1 *Population of study area by sex, age and marital status, 19..*

Age Groups	Males							Females							Age Groups
	Single	Married	Widowed	Divorced	Separated	Not stated	Total	Single	Married	Widowed	Divorced	Separated	Not stated	Total	
0 –															0 –
15 –															15 –
25 –															25 –
45 –															45 –
65 –															65 –
75 +															75 +
Not stated															Not stated
All Ages															All Ages

Definition: *Marital status* is the personal status of each individual in relation to the marriage laws or customs of the country. The categories of marital status to be identified are (*a*) single, i.e. never married; (*b*) married; (*c*) widowed and not remarried; (*d*) divorced and not remarried; and (*e*) married but legally separated.

In some countries it will be necessary to take into account customary unions (which are legal and binding under customary law) and extra-legal unions, the latter often known as *de facto* (consensual) unions.

1.3.2.2 *Population of study area by sex, age and type of activity (labour force status), 19..*

Age Groups	Males						Females						Age Groups
	Employed (i)	Unemployed (ii)	Total economically active (i) + (ii)	Not economically active (iii)	Not known	Total (i) + (ii) + (iii)	Employed (i)	Unemployed (ii)	Total economically active (i) + (ii)	Not economically active (iii)	Not known	Total (i) + (ii) + (iii)	
Under 15													Under 15
15 –													15 –
25 –													25 –
45 –													45 –
65 –													65 –
75 +													75 +
Not stated													Not stated
All ages													All ages

Definitions: *Employed*: All persons, including family workers, who worked or had a job in which they had already worked, but from which they were temporarily absent because of illness, injury, industrial dispute, vacation or other leave of absence, absence without leave, or temporary disorganization of work due to such reasons as bad weather or mechanical breakdown.

Unemployed: All persons who were not working but were seeking work for pay or profit, including those who had never worked before. Also included are persons not seeking work because of temporary illness, because they had made arrangements to start a new job, or because they were on temporary or indefinite lay-off without pay.

Economically active: All persons of either sex who furnish the supply of labour for the production of economic goods and services. It includes both persons in the civilian labour force and those serving in the armed forces. The civilian labour force comprises both persons employed and those unemployed.

Not economically active comprise (*a*) home-makers: persons of either sex, not economically active who are engaged in household duties in their own homes; (*b*) students; (*c*) income recipients; (*d*) other, e.g. receiving public aid or private support, and others not included above, e.g. children not attending school.

Time-reference period: the data collected about the characteristics of a population should be pertinent to a well-defined reference time; this will usually be either the census day or the period immediately before it.

2. Inventory of services

Instructions 2a

As the information on existing services for the mentally ill is one of the foci of this study the data provided should be as extensive and as accurate as possible.

The inventory of services will consider services under three headings:

(1) Services located within the pilot study area and serving the area;
(2) Services located outside the pilot study area but providing services for the area;
(3) Services located within the pilot study area but *not* providing services for the area.

Under each of these headings a list of the existing services according to type, i.e. mental hospital, psychiatric unit in general hospital, outpatient psychiatric clinic, counselling services, psychiatrists in private practice, hostel, etc. should be provided on data sheet 2.

The listing is sufficient for services under (3) but for services under (1) and (2) the separate data sheet 3 has to be completed.

In some pilot study areas the team involved in this study may for one or other reason not have access to information on services separated as above. In such cases a brief narrative describing the situation and its importance for the full picture of the area will have to be added.

You might find the following definitions of mental health facilities useful.

Mental hospital
Public or private mental hospital where the primary concern is to provide inpatient care and treatment to the mentally ill.

General hospital providing psychiatric services
A hospital that knowingly and routinely admits patients for the express purpose of diagnosing and treating psychiatric illness.

(*a*) *With separate psychiatric unit(s)*
A separate psychiatric unit is an organizational or administrative entity within a facility which provides one or more treatments or other clinical services for patients with a known or suspected psychiatric diagnosis and is specifically established and staffed for use by patients served in this unit. If this is an inpatient unit, beds are set up and staffed specifically for psychiatric patients in a separate ward or unit. These beds may be located in a specific building, wing, or floor, or they may be a specific group of beds physically separated from regular or surgical beds.

(*b*) *With general psychiatric inpatient service*
A hospital which knowingly and routinely admits patients with a known or suspected psychiatric diagnosis but for whom services are not provided in a separate psychiatric unit. Inpatient care is provided in beds set up and staffed for general use not specifically set aside for psychiatric patients. Such beds are in regular medical or surgical wards

with no physical separation or isolation of the psychiatric inpatient from other inpatients.

Residential treatment centres for emotionally disturbed children
A residential institution that primarily serves children who by clinical diagnosis are moderately or seriously disturbed emotionally and which provides treatment services usually under the supervision of a psychiatrist.

Outpatient psychiatric clinic
An administratively distinct facility whose primary purpose is to provide nonresidential mental health service and in which a psychiatrist assumes medical responsibility for all patients and/or directs the mental health programme.

Mental health day/night facility
A separate facility whose primary purpose is to provide a planned programme of milieu therapy and other treatment modalities. The service is designed for nonresidential patients who spend only part of a 24 hour period in the facility.

Comprehensive community mental health centre
Facilities which form a service network providing comprehensive services and continuity of care for patients with mental illness and emotional disorders. As a minimum, the centre must provide inpatient care, outpatient care, day treatment service, emergency service, and community consultation and education.

2a.1 Area identification number—
Please use same code as for Data Sheet 1.

2a.2 Please list your services according to their type i.e. mental hospital, psychiatric unit in General Hospital, Day Hospital, Hostel, etc., and location i.e. within or outside the pilot study area, and whether they provide services to the pilot study area. Please give each of them your code number (3 digits).

2a.2.1 The first list will thus be all services by type of service within the pilot study area and providing services to the area.

2a.2.2 The second list will be services by type of service located outside the pilot study area but providing service to the area.

2a.2.3 The third list will be services by type of service within the pilot study area but not providing service to the area.

For each service listed, please enter its name and the responsible authority, and your code number (3 digits).

Data sheet 2a

2a.1 Area identification number ☐☐☐
2a.2 List of services
2a.2.1 List of services located within the pilot study area and providing service to the area.

Name of service	Code No.	Responsible Authority	Type of service

2a.2.2 List of services located outside the pilot study area but providing service to the area.

Name of service	Code No.	Responsible Authority	Type of service

2a.2.3 List of services located within the pilot study area but not providing service to the area.

Name of service	Code No.	Responsible Authority	Type of service

Instructions 2b

2b.0 *Area identification number*
Please use same code as for Data Sheet 1 and one sheet per institution.

2b.1 *Name of institution*
Please give name and code number for the institution so that it can be correctly linked to the corresponding patient census and to the cohort study.

2b.2 *Responsible authority*
This may be a government department, whether national, federal or local, a university medical school, a trade union, a religious community, a private organization or a single private person.

2b.3 *Description of functional units*

Please provide in a brief narrative the way in which the institution is divided into functional units, how large each of these are and to which extent they differ in assignment of different personnel groups.

Please assign code numbers for identification of your services (3 digits) and for its functional units (2 digits).

2b.4 *Staffing*

The following list of personnel might be useful.

Professional health personnel

1. Psychiatrists
2. Nonpsychiatric physicians
3. Qualified nurses
4. Clinical psychologists
5. Other psychologists
6. Psychiatric social workers
7. Other social workers
8. Other mental health professionals:
   Occupational and activities therapists, vocational rehabilitation counsellors, special education teachers.
9. Other health professionals: dieticians, dentists

Other health personnel

10. Assistant/auxiliary nursing personnel
11. Non-qualified health personnel, including nursing aides, mental health workers.

Non-patient care staff

12. General administrators and clerical staff, including medical records administration
13. Housekeeping and maintenance: kitchen, technical, laundry, transport, cleaning staff; external staff under contract.
14. Total all staff.

Please provide a short description of the requirements to become a qualified psychiatrist, a physician, a qualified nurse, a qualified psychologist and a qualified social worker. Please list according to the convention in your country. For example areas may put under 4. all psychologists with university degree including pedagogists, sociologists, etc., while under 5. non-university degrees as e.g. psychological assistants.

Where additional information is necessary to complete the picture of staffing, i.e. where additional staff not covered by the descriptions in the table are supplying services, then these should be elaborated in a narrative.

Full-time equivalent should be calculated on the basis of all clinical services rendered by professional personnel in all clinical activities of the unit or institution, i.e. in in-patient, out-patient and day care setting.

For each category of professional personnel the number of hours per week which constitutes a full-time commitment should be entered. Full time may for instance be 25 hours per week for a qualified psychiatrist, but 40 hours per week for a qualified nurse.

2b.5 *Average cost* per patient day—per outpatient visit—per home visit—per day/night of partial hospitalization.

The average direct cost per patient day is derived by detailing and pricing all relevant resources which, during an average hospital day, are serving the typical member of the patient group.

In other words for a unit or institution as a whole the annual sum of the cost of all resources are divided by the total number of patient days:

$$\left(\frac{\text{total cost of resources}}{\text{total patient days}}\right)$$

By resources are meant the three different categories of:

(1) Personnel, such as professional health personnel, other health personnel and non-patient care staff (as under 2b.4);
(2) Medical and material supplies and instruments (also called short-term or circulating capital);
(3) Housing, real estate and equipment (also called real or fixed capital).

As there are wide variations in the accounting systems within and among countries no definite list can be given. Thus the specifications of resources and cost must be in keeping with your accounting system. Should you wish to analyse the average cost per patient day in different functional units within the institution you would find it useful to rearrange your resources into the three categories specified above. It is interesting to have a fair estimate of the percentage distribution of the average cost per service utilization units according to personnel, short-term capital and fixed capital. Please see Annex 3 of the report of the Sixth Meeting on Mental Health Services in Pilot Study Areas, Madrid 1978, for terminology and guidance.

The same method applies for the calculation of average cost per outpatient visit, per home visit, per day visit, per partial hospitalization day/night.

2b.6 *Visiting*

Unrestricted means that the patient may be freely visited at any time except during the night and at meal times.

Restricted means that the patient may be visited only during certain hours and/or on certain days.

However, if the patient can only be visited once a month, or even less frequently please tick 3. Please specify if there are differences between functional units.

For exclusively outpatient services the word visiting should be replaced by consultation hours (e.g. every work day from 9–12 a.m.).

2b.7 Please describe in a brief narrative the day-care facilities and outpatient services provided by the unit or institution. Your narrative should contain references to which functional units are providing these services, what are the annual number of patients served, and which is the proportion of time spent by the professional personnel in the provision of these services.

Data sheet 2b

2b.0 Area identification number ☐☐☐
2b.1 Name of institution and its code number.........
2b.2 Responsible authority......................... ☐☐☐
2b.3 Description of functional units and their code numbers
2b.4 Staffing

Discipline and training	hours per week for full-time equivalent	Regular staff		Students, trainees, residents, etc.	
		Number	Full-time equivalent	Number	Full-time equivalent
Professional health staff					
Psychiatrists					
Non-psychiatric physicians					
Qualified nurses					
Clinical psychologists					
Other psychologists					
Psychiatric social workers					
Other social workers					
Other mental health professionals					
Other health professionals					
Other health staff					
Assistant nurses					
Non-qualified health personnel					
Non-patient care staff					
Administrative and clerical					
Housekeeping					
Total all staff					

2b.5

Code Area: Institution: Functional unit: Year:

Average cost per:	Amount in local currency[a]	Percentage of cost for personnel	Percentage for short-term capital	Percentage for fixed capital
Inpatient day[b]				
Outpatient visit				
Home visit				
Partial hospitalization, day				
Partial hospitalization, night				

[a] Please specify which unit you use, e.g. 1000 DM, 10 FF, 1 DK.
[b] If you are interested, differentiated by functional unit

2b.6 Visiting
1. Unrestricted ☐
2. Restricted ☐
3. Once a month or less ☐

2b.7 Description of day care facilities and outpatient services provided.

3. Census of patients

Instructions 3a

Please fill in one sheet for each patient in each functional unit which you have identified under 2b.3.

Information to be supplied only on patients in inpatient and day care.

Similar information on *outpatients* may be supplied in narrative form and should together with your description from 2b.7 form an integral part of the overall description of your services given in 1.3.4. The same applies for day patients and night patients of partial hospitalization.

3a. *WHO Project identification number*

pos. 1–3	mental health project
pos. 4–5	project or pilot areas
pos. 6	3 = Phase III
pos. 7–8	identification of data sheet 01—Census sheet for in-patients 02—Census sheet for day-patients 03—Census sheet for out-patients (optional) 04—Data sheet for cohort study 05—Data sheet for night-patients (optional)

3a.2 *Area identification number*

Please use same code as for data sheet 1.

3a.3 *Code of service and functional unit*

Please give codes as assigned to services and functional units as under 2b.3 (3 digits for the service, 2 digits for its functional units).

3a.4 *Date of census*

Please give date of census by day, month, year.

3a.5 *Patient number*

As only in-patients and patients in day care present on census day are to be included you can number them continuously. Please remember to use the sheet with WHO project identification number.

M	N	H	P	A	3	0	1	for inpatients, and
M	N	H	P	A	3	0	2	for day patients

3a.6 *Sex*

Male 1 Female 2

3a.7 *Date of birth*

Please give date of birth by day, month, year.

3a.8 *Age group*

Years of age	*Code*	*Years of age*	*Code*
0–4	01	50–54	11
5–9	02	55–59	12
10–14	03	60–64	13
15–19	04	65–69	14
20–24	05	70–74	15
25–29	06	75–79	16
30–34	07	80–84	17
35–39	08	85+	18
40–44	09	All ages	19
45–49	10	Not known	20

3a.9 *Marital status*

Please code the official marital status in accordance with legal conventions of your country.

1 Single
2 Married
3 Widowed
4 Divorced
5 Separated
6 Not known

3a.10 *Date of present admission*

Please code day, month, year.

3a.11 *Length of stay*

Less than 1 month	1
1 or more but less than 3 months	2

3 or more but less than 6 months	3
6 or more but less than 12 months	4
1 or more but less than 2 years	5
2 or more but less than 5 years	6
5 years or more	7
Not known	0

3a.12 *Psychiatric diagnosis*

Please code the patients present diagnosis according to either 8th Revision of the ICD, pos. 44–47 provided (if you only use 3-digit list please use pos. 44–46)
and/or 9th Revision of the ICD, pos. 48–51 provided (if you only use 3-digit list please use pos. 48–50).

3a.13 *Diagnostic group*

At the Seventh Meeting on Mental Health Services in Pilot Study Areas in Tampere the following diagnostic groups from the 8th Revision of the ICD were agreed:

		Code
290–294	Organic psychoses	1
295 and 297	Schizophrenia and paranoid states	2
296	Affective psychoses	3
298–299	Other and unspecified psychoses	4
300–302, 307	Neurosis and personality disorders	5
303–304	Alcoholism and drug dependence	6
310–315	Mental retardation	7
Other		8

3a.14 *Patient lives* (domestic circumstances)

1 Alone
2 With parental family
3 With nuclear family
4 In group
5 In hostel
6 In institution
7 No fixed abode

Positions 54–80 available for optional area specific data.
It is suggested that each area will also collect data on where the patient was admitted from/by

3a.15 *Patient admitted from/by*

Code

10 = Self

20 = Relatives and friends

30 = Employer
31 = school
32 = army

60 = Correctional agencies
61 = police
62 = court
63 = other (specify)

70 = Welfare agency
71 = missions
72 = clergy

40 = Psychiatric agency
41 = private psychiatrist
42 = mental health centre
43 = general hospital, psychiatric unit
44 = psychiatric clinic
45 = other psychiatric facility
46 = institution or facility
50 = Medical (non-psychiatric) agency
51 = other private physician
52 = general hospital
53 = nursing home
54 = armed forces (hospital)

73 = welfare

80 = Anonymous

90 = Other
91 = government department
92 = vocational rehabilitation
93 = other public agencies
94 = other (specify)

Data sheet 3a

Inpatient

3a.1 M N H P A 3 0 1 WHO project identification	3a.2 ☐☐☐ Area code	3a.3 ☐☐☐☐☐ Service code/ functional unit	1–16
3a.4 Date of census ☐☐☐☐☐☐ day month year			17–22

3a.5	Patient number	☐☐☐☐	23–26
3a.6	Sex—male 1, female 2	☐	27
3a.7	Date of birth	☐☐☐☐☐☐ day month year	28–33
3a.8	Age group	☐☐	34–35
3a.9	Marital status	☐	36
3a.10	Date of present admission	☐☐☐☐☐☐ day month year	37–42
3a.11	Length of stay	☐	43
3a.12	Psychiatric diagnosis	8th Rev. ☐☐☐☐	44–47
		9th Rev. ☐☐☐☐	48–51

3a.13	Diagnostic group	☐	52
3a.14	Patient lives (domestic circumstances) Positions 54–80 available for optional area	☐	53
	Specific data		
	Suggestion		
3a.15	Patient admitted from	☐☐	54–55

Day patient

3a.1	M N H P A 3 0 2 WHO project identification	3a.2	☐☐☐ Area code	3a.3	☐☐☐☐☐ Service code/ functional unit	1–16
3a.4	Date of census ☐☐☐☐☐☐ day month year					17–22

3a.5	Patient number	☐☐☐☐	23–26
3a.6	Sex—male 1, female 2	☐	27
3a.7	Date of birth	☐☐☐☐☐☐ day month year	28–33
3a.8	Age group	☐☐	34–35
3a.9	Marital status	☐	36
3a.10	Date of present admission	☐☐☐☐☐☐ day month year	37–42
3a.11	Length of stay	☐	43
3a.12	Psychiatric diagnosis	8th Rev. ☐☐☐☐	44–47
		9th Rev. ☐☐☐☐	48–51
3a.13	Diagnostic group	☐	52

3a.14 Patient lives (domestic circumstances) Positions 54–80 available for optional area Specific data Suggestion	☐	53
3a.15 Patient admitted from	☐☐	54–55

Instructions 3b

Please fill in one sheet for each patient in each functional unit which you have identified under 2b.3.

Information to be supplied only on outpatients.

3b.1 *WHO Project identification number*

pos. 1–3	mental health project
pos. 4–5	project in pilot areas
pos. 6	3 = Phase III
pos. 7–8	identification of data sheet

3b.2 *Area identification number*

Please use same code as for data sheet 1.

3b.3 *Code of service and functional unit*

Please give codes as assigned to services and functional units as under 2b.3 (3 digits for the service, 2 digits for its functional units).

3b.4 *Date of Census*

Please give date of census by day, month, year.

3b.5 *Patient number*

Patients should be numbered continuously.

3b.6 *Sex*

Male 1

Female 2

3b.7 *Date of birth*

Please give date of birth by day, month, year.

3b.8 *Age group*

Years of age	*Code*	*Years of age*	*Code*
0–4	01	50–54	11
5–9	02	55–59	12
10–14	03	60–64	13
15–19	04	65–69	14
20–24	05	70–74	15
25–29	06	75–79	16
30–34	07	80–84	17
35–39	08	85 +	18
40–44	09	All ages	19
45–49	10	Not known	20

3b.9 *Marital status*

Please code the official marital status in accordance with legal conventions of your country.

1 Single
2 Married
3 Widowed
4 Divorced
5 Separated
6 Not known

3b.10 *Date of first attendance*

Please code day, month, year.

3b.11 *Frequence of attendance during last year*

1 = once
2 = twice
3 = 3 times
4 = 4 times
5 = 5 times
6 = 6–10 times
7 = more than 10 times
8 = unknown

3b.12 *Psychiatric diagnosis*

Please code the patients present diagnosis according to either 8th Revision of the ICD, pos. 44–47 provided (if you only use 3-digit list please use pos. 44–46)
and/or 9th Revision of the ICD, pos. 48–51 provided (if you only use 3-digit list please use pos. 48–50).

3b.13 *Diagnostic group*

At the Seventh Meeting on Mental Health Services in Pilot Study Areas in Tampere the following diagnostic groups from the 8th Revision of the ICD were agreed:

		Code
290–294	Organic psychoses	1
295 and 297	Schizophrenia and paranoid states	2
296	Affective psychoses	3
298–299	Other and unspecified psychoses	4
300–302, 307	Neurosis and personality disorders	5
303–304	Alcoholism and Drug Dependence	6
310–315	Mental Retardation	7
Other		8

3b.14 *Patient lives* (domestic circumstances)

1 alone
2 with parental family
3 with nuclear family
4 in group
5 in hostel
6 in institution
7 no fixed abode

Positions 54–80 available for optional area specific data.
It is suggested that each area will also collect data on where the patient was admitted from/by.

3b.14 *Patient admitted from/by*

Code

10 = Self

20 = Relatives and friends

30 = Employer
31 = school
32 = army
40 = Psychiatric agency
41 = private psychiatrist
42 = mental health centre
43 = general hospital, psychiatric unit
44 = psychiatric clinic
45 = other psychiatric facility
46 = institution or facility for retarded
50 = Medical (non-psychiatric) agency
51 = other private physician
52 = general hospital
53 = nursing home
54 = armed forces (hospital)

60 = Correctional agencies
61 = police
62 = court
63 = other (specify)

70 = Welfare agency
71 = missions
72 = clergy
73 = welfare
80 = Anonymous

90 = Other
91 = government department
92 = vocational rehabilitation
93 = other public agencies
94 = other (specify)

Data sheet 3b

Outpatients

3b.1	M N H P A 3 0 3	3b.2	☐☐☐	3b.3	☐☐☐☐☐	1–16
	WHO project identification		Area code		Service code/ functional unit	
3b.4	Date of contact		☐☐☐☐☐☐ day month year			17–22
3b.5	Patient number				☐☐☐☐	23–26
3b.6	Sex—male 1, female 2				☐	27
3b.7	Date of birth				☐☐☐☐☐☐ day month year	28–33
3b.8	Age group				☐☐	34–35

3b.9 Marital status	☐	36
3b.10 Date of first attendance	☐☐☐☐☐☐ day month year	37–42
3b.11 Frequency of attendance during last year	☐	43
3b.12 Psychiatric diagnosis	8th Rev. ☐☐☐☐	44–47
	9th Rev. ☐☐☐☐	48–51
3b.13 Diagnostic group	☐	52
3b.14 Patient lives (domestic circumstances)	☐	53
3b.15 Patient admitted from	☐☐	54–55

Positions 56–80 available for optional data

4. Cohort study

Instructions 4

At the Conference on Mental Health Services in Pilot Study Areas in Lysebu (1977) and at the Sixth Meeting on Mental Health Services in Pilot Study Areas in Madrid (1978) it was agreed that each area undertaking the cohort study should use the same basic data on services and on individuals, and that one of the main objectives of this cohort study is to see how patients pass through the services of the pilot area.

The data sheets contain only those items which the participants in the two meetings mentioned above agreed were to be useful in relation to the operation of services. Each pilot study area may supplement this minimum to answer their specific questions.

It was agreed that each pilot study area should, as a minimum, collect 200 consecutive new patients from the services, identified under 1) and 2) on Data Sheet 2a and described on Data Sheet 2b, and follow them over 2 years.

The final agreement on the definition of a "new patient" was someone not having made use of the services six months prior to entering the cohort. It was further agreed that each area would ensure the inclusion of 200 consecutive new cases of any diagnosis, aged 15 and over, and living in the area.

Each area should feel free to select additional groups of patients such as children, elderly, or specific diagnostic groups, and to extend the number of cohort patients.

As some areas will be able to include only organized services, while other areas will be able to include also contacts with psychiatrists in private practice, it is necessary to indicate precisely which services are included in the study for reasons of comparability.

Data sheets

For each individual entering the cohort the front page of data sheet 4 has to be completed. In order to ensure that at least 200 patients defined as above are included each area will determine the time period during which all services of the network tentatively include patients for the cohort study, i.e. they fill in the "front page".

These front pages are sent to the area project coordinator. He selects the minimum 200 cases to be followed up. He informs the respective services (where the front sheets were filled in).

After 3 months the project coordinator (for the area) sends copies of the front sheets of the 200 patients to all other services participating in the study with the request to provide information if available ("back page" data).

This procedure is repeated every 3 months until the end of the two year period. In order to facilitate the analysis and in order to clarify possible misunderstandings it is suggested that at each 3 month interval service contacts are entered in the correct time sequence on the back page(s).

Front page

4.1 *WHO/EURO project identification number* | M | N | H | P | A | 3 | 0 | 4 |

where pos. 1–3 = mental health project
pos. 4–5 = project in pilot areas
pos. 6 = 3 = Phase III
pos. 7–8 = identification of data sheet
04 = data sheet for cohort study

4.2. *Area identification number*—enter the code for the pilot area according to the following list:

Aberdeen	161	Mannheim	071
Athens	081	Mistelbach	011
Belgrade	171	Nottingham	162
Brussels	022	Oslo	121
Dublin	091	Paris 7	061
El Ferrol	141	Paris 13	062
Geneva	152	Randers	041
Groningen	111	Tampere	051
Iaşi	131	Trieste	101
Leganes	142	Zagreb	172
Leuven	021		

4.3. *Cohort identification*

All areas will code the basic cohort as 1.

Additional area specific cohorts will be coded 2, 3, . . . etc. (Definition, size of cohort, length of follow up, etc., will be sent to EURO for information to other areas)

4.4. *Code of service/functional unit where patient entered study.*

Please code as in (inventory of services), your list of codes for services/functional units to be sent to EURO.

4.5. *Date of first entry in project*

Please code day, month, year.

4.6. *Patient identification number*

It is suggested that you use the patient's date of birth and sex as identification number i.e. first six digits is date of birth by day, month, year, the 7th digit is sex (1 for male, 2 for female), the 8th digit will normally be left blank, but should you have 2 or more patients of same sex, born on same day you should use the 8th digit to give these patients serial numbers 1, 2, . . . Thus if you have two males born on 24 December 1935 their respective identification numbers would be:

2	4	1	2	3	5	1	1	and	2	4	1	2	3	5	1	2

4.7 *Code for type of page*

Please code:

Front page = 0
1st back page = 1
2nd back page = 2
etc.

4.8. *Punch card number*

The data of the front page fit in one punch card hence the code is 1;

The data of the back page will over the two year period fill more than one punch card

(There are maximum 80 columns on one punch card) hence the codes should be 1, 2, 3, . . .

(These should be precoded in order to facilitate the work in each service).

4.9. *Sex*

Male 1, female 2

4.10 *Date of birth*

Please code day, month, year.

4.11. *Marital status*

1. Single
2. Married
3. Widowed
4. Divorced
5. Separated
6. Not known

Code the official marital status in accordance with legal conventions in your country.

4.12. *Employment status*

1. Fully employed
2. Partially employed
3. Unemployed
4. Disability pension
5. Retired
6. School/student
7. Housewife
8. Other (specify)

Code one alternative only. Where more than one is applicable code the highest on the list. A partially employed housewife or student would thus be coded 2.

4.13. *Psychiatric diagnosis*

Please code the initial diagnosis, any change in diagnosis will appear on back page. Please use either 8th Revision of the ICD or 9th Revision of the ICD. If you only use the 3 digit list, please leave 4th digit blank.

4.14. *Diagnostic group*

At the 7th Meeting on Mental Health Services in Pilot Study Areas in Tampere the following diagnostic groups from the 8th Revision of the ICD were agreed:

		Code
290–294	Organic psychoses	1
295 and 297	Schizophrenia and paranoid states	2
296	Affective psychoses	3
298–299	Other and unspecified psychoses	4
300–302, 307	Neurosis and personality disorders	5
303–304	Alcoholism and drug dependence	6
310–315	Mental retardation	7
Other		8

The remaining positions of the front page can be used for optional area-specific socio-demographic data which will not change during the two-year follow-up period.

Back page

4.1–8. See instructions for front page

4.9. *Service/functional unit code*

Please code according to your list of codes 3.3, inventory of services.

4.10. *Date of contact/change of status*

Please code day, month, year.

4.11. *Type of contact/care*

Outpatient visit = 1
Home visit = 2
Day care = 3
Night care = 4
Full time care = 5

4.12. *Type of action*

1. Admission
2. Discontinuation by return to community
3. Discontinuation by death
4. Discontinuation by transfer to other psychiatric services included in the Study.
5. No change in status

Items 9–12 should be filled out for each change in status or for each contact and at least once in three months.

Data sheet 4, front page

4.1. M N H P A 3 0 4 WHO project identification	4.2. ☐☐☐ Area code	4.3. ☐ Cohort identification	4.4. ☐☐☐☐☐ Service code/ functional unit	4.5. ☐☐☐☐☐☐ day month year Date of first entry	1–23
4.6. ☐☐☐☐☐☐☐☐ day month year sex ser. Patient identity	4.7. 0 Code for front page	4.8. 1 Card No. front page			24–33

4.9.	Sex 1 = male, 2 = female	☐	34
4.10.	Date of birth	☐☐☐☐☐☐	35–40
4.11.	Marital status	☐	41
4.12.	Employment status	☐	42
4.13.	Psychiatric diagnosis	8th Rev. ☐☐☐☐	43–46
		9th Rev. ☐☐☐☐	47–50
4.14.	Diagnostic group	☐	51
4.15.	Optional area specific sociodemographic data which will not change during two year period	use pos.	52–80

Tear off prior to data processing

Patient's Name . . . .
Patient's Address . . . .

Patient's identification number
☐☐☐☐☐☐☐☐
day month year sex ser.

Data sheet 4, back page

4.1.	4.2.	4.3.	4.4.	4.5.	4.6.	4.7.	4.8.	
M N H P A 3 0 4	☐☐	☐	☐☐☐☐	☐☐☐☐☐☐ day month year	☐☐☐☐☐☐☐☐ day month year sex ser	☐	☐	1–33
WHO identification	Area code	Cohort identification	Service unit/ function code	Date of First entry	Patient's identification number	Serial No. of back page	Punch card No.	

4.9. Service unit/ function code	4.10. Date of contact/ change in status	4.11. Type of care	4.12. Type of action		
☐☐☐☐☐	☐☐☐☐☐☐ day month year	☐	☐		34–46
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☐☐☐☐☐	☐☐☐☐☐☐	☐		60–72

Tear off prior to data processing

Patient's name . . . .

Patient's identification number

☐☐☐☐☐☐☐☐☐☐

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Many European countries have a long tradition of mental health care delivered through a variety of specialized institutions, but information on the subject is sketchy. In the 1976 publication *Mental health services in Europe* (WHO Offset Publications No. 23) the late Dr A.R. May showed that reliable information was not at all readily available. Imprecise terminology and statistics made comparison between countries impossible. To close this gap, 21 pilot study areas in 16 countries were surveyed in depth.

The development of community mental health services today plays a major role in the provision of psychiatric care. Anti-psychiatric movements, changing economic conditions, and changing knowledge and opinions concerning the treatment of psychiatric patients have resulted in an overall trend towards deinstitutionalization. It is therefore in the interest of health authorities to be given as clear a picture as possible of the present state of mental health services within the European Region.

This book reveals surprisingly wide differences in the patterns of care and in the chronicity of cases followed up for a period of two years in the various areas. The wide range of alternative treatments is the result of a combination of factors, including not only the needs of the patient but also the established habits of the services involved.

The comprehensive picture provided of the different types of mental health care will be particularly valuable to those responsible for planning for the future. The book shows the wide choice available, and should encourage health workers and administrators at both local and national levels to establish reliable information systems or to improve those that already exist.

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